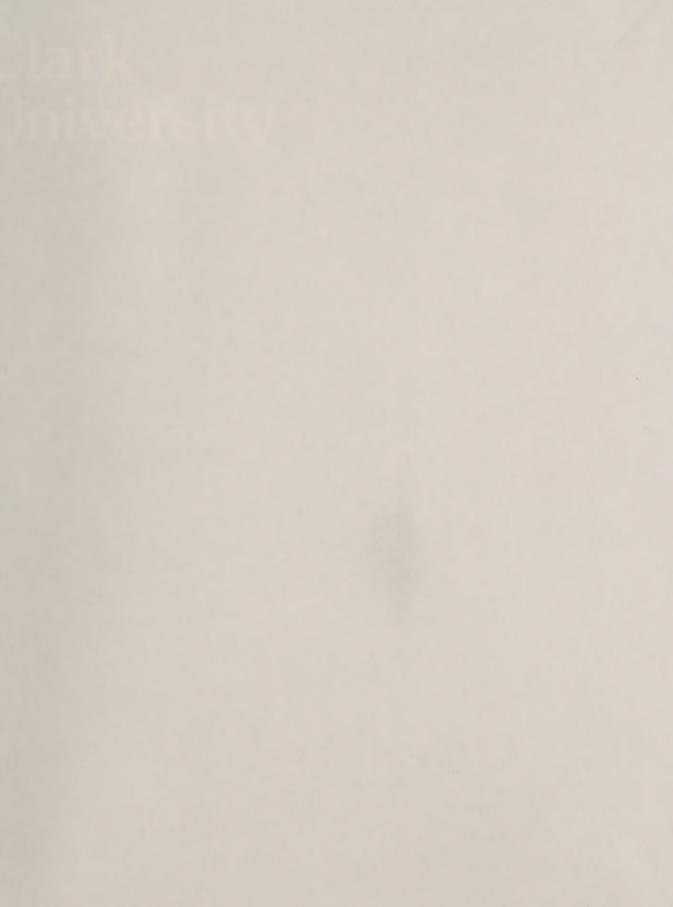


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Clark University





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Clark University

The New England Association of Colleges and Secondary Schools accredits schools and colleges in the six New England states. Membership in one of the six regional accrediting associations in the United States indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators. Colleges support the efforts of public school and community officials to have their secondary school meet the standards of membership.

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THE UNIVERSITY-COLLEGE

The role of Clark University in undergraduate education is defined by its position as a small college dedicated to advanced learning within the context of the University. The University's emphasis upon intellectual and scholarly achievement and the extensive resources of its nationally recognized Graduate School provide unique advantages for the college. The university-college concept seeks to integrate graduate and undergraduate education and to translate the high standards of the Graduate School for the University as a whole.

Thus, the university-college makes the undergraduate experience more closely related to, or extending into, the graduate experience. The ultimate goal of the university-college is to develop persons characterized by such qualities as intellectual competence, personal maturity, well-developed skills in analysis, communication, critical thinking, and perhaps most importantly — the capacity to work independently; that is, to be autonomous learners. Thus, programs are structured in such a way that students will take increasing responsibility for their own learning.

In the spring of 1973, the University adopted the concept of the university-college as the ideal toward which all undergraduate academic planning and program development should be directed.

Clark University is uniquely qualified to develop such an undergraduate educational experience, and has pledged itself to do so. From its beginning, Clark has emphasized what its founding President, G. Stanley Hall, called "elbow teaching," the close personal relationship between student and faculty member, along with a dedication to excellence in teaching and research by its faculty, and the involvement of its students in all aspects of the intellectual life of the University.

The college embraces the normal four undergraduate years and results in the B.A. degree or, if the student chooses and is accepted into an integrated undergraduate-graduate program, an M.A. degree.

INTRODUCTORY PROGRAM

The Introductory Program currently in the final stages of planning, is considering such issues as the need for introductory courses within the context of the various departmental and interdepartmental programs, the different backgrounds and needs of individual students, the need for courses which bridge disciplinary perspectives, the issue of academic acceleration into the Program of Advanced Studies, the development of specific skills, advisory systems, and means for redefining career and educational objectives. The program is still being developed and will be more fully implemented within the next academic year.

PROGRAM OF ADVANCED STUDIES

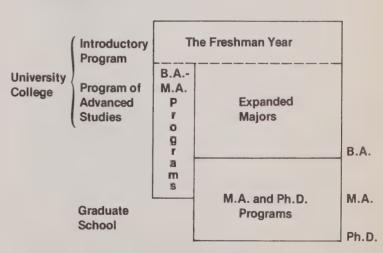
The Program of Advanced Studies leads to either the B.A. or M.A. degree and is composed of two major tracks.

The expanded major involves study in the various departmental and interdepartmental programs of the college and results in the B.A. degree. The expanded major is not a departmental major in the traditional sense. Rather, it is a program of study which is anchored in a particular discipline but specifically builds in courses in related disciplines as an integral part of the major. Each major, therefore, becomes interdisciplinary in design. (In addition to prescribing minimal requirements for the new major, each department has been asked to design programmatic options within the enlarged scope. This concept recognizes the need for depth of knowledge, and speaks to this issue by acknowledging that intensive work in a major field is the core of the undergraduate experience. However, it also acknowledges that breadth of knowledge must be maintained as well, and yet that it can be achieved more meaningfully in other ways than through prescribed University-wide distribution requirements. Particular attention is placed on the coherence of the major program to others within the University, capstone experiences which encourage closure and reflection, and early research opportunities.)

Ordinarily, multiple tracks within the major will be provided. A student will take from 50 to 80 per cent of his or her studies during the Program of Advanced Studies in the expanded major. This greater focus over the last three years will permit greater depth and sophistication in the student's chosen field of study.

Integrated undergraduate-graduate programs constitute the second track of the Program of Advanced Studies and lead to the M.A. degree. Enrollment in these programs is limited and requires formal admission. This ordinarily occurs at the end of the first year in the Program of Advanced Studies. These programs tend to be interdisciplinary in nature and have a strong career orientation. Over time, a network of such programs will become available to students in the university-college.

The structure of the university-college may be expressed graphically as follows:



The Academic Programs

DEPARTMENTAL MAJORS

Within the Program of Advanced Studies, a student may major in biology, chemistry, economics, English, foreign languages (the foreign languages major is designated: in French, in German, in Spanish, in Romance Languages, or in foreign languages according to the program chosen), geography, government, history, international relations, mathematics, music, philosophy, physics, psychology, or sociology. An interdepartmental major in Science, Technology and Society is also available. A major in studio arts is offered through a cooperative program with the School of the Worcester Art Museum. A major in theatre art is offered through a coordinate program sponsored by Clark University, the College of the Holy Cross, and Assumption College. Courses in Black studies, classics, geology, management, criminal justice, Jewish studies, Russian, and women's studies are offered, but departmental majors are not available.

INTEGRATED GRADUATE-UNDERGRADUATE PROGRAMS

The University recently inaugurated several new integrated undergraduate-graduate programs. These programs ordinarily begin during the junior year, continue for a period of approximately three years, and result in an M.A. degree. Clark undergraduate students and transfer students both are eligible for these programs and must apply for admission to them. Formal application to the Graduate School is required after a given period in the program. The newly approved programs are comparative literature, environmental affairs, and international development.

STUDENT-DESIGNED MAJORS

Any student can design his or her own major which focuses on a systematic body of knowledge not within the bounds of existing majors or departments. The student, with the advice of an advisory committee of three faculty members, will establish the major program which must then be approved by the Undergraduate Academic Board. Such majors must include a balance between upper and lower division courses and must be approved no later than the start of the second semester of the junior year. The senior year includes the satisfactory completion of some specific work (e.g., senior thesis, an internship experience, senior tutorial) intended to integrate courses in the major and to demonstrate accomplishment. Within past years, students have designed majors in such areas

as Urban Studies, Film Studies, Women's Studies, and Education and the Community.

DECLARATION OF THE MAJOR

The central role of the expanded major in the B.A. degree attaches considerable importance to the declaration of the major. A student declares his or her intent to major in one of several departments upon entering the Program of Advanced Studies. By the end of the first year in this program, the student should make a firm declaration of major. Changes in major after this point are possible but may prolong the undergraduate experience. Students are encouraged to seek faculty advice and give careful attention to their future program of study during the freshman year.

UNDERGRADUATE PROGRAMS

Freshmen and sophomores may choose any course designated by the department as open to them.

Freshmen and sophomores are admitted to courses designated by numbers with the numeral 2 only with permission of the instructor and the department chairperson concerned, to whom the student must present evidence of high class standing and/or adequate preparation.

Juniors and seniors may elect any courses designated by numbers beginning with 1 or 2, indicating respectively courses which are primarily for undergraduates or for advanced undergraduates and graduate students. The selection by juniors and seniors of these courses is subject to any conditions stated in the course description.

Undergraduates may be admitted to courses designated by numbers beginning with the numeral 3 (indicating courses which are primarily for graduate students) with the approval of the Dean of the Graduate School.

DIRECTED READINGS AND SPECIAL PROJECTS COURSES

Most departments offer directed readings or special projects courses which may be entered with the permission of the instructor concerned. Directed readings courses comprise a sequence of structured readings on a given topic approved and directly supervised by the instructor. Special projects courses involve independent research by the student on a particular problem, as in laboratory work or field study. Both types of courses are offered for variable course credit but not to exceed a full course except by petition to the College Board. The number of course credits awarded on the basis of work performed is determined at the end of the course. Students may take up to two full course credits in Directed Readings, Special Projects, or some combination of the two in a given one-semester period. There is no limit on the total number of such courses which may be counted toward the B.A. degree.

THE MODULAR TERM

The Modular Term is an extension of the normal academic year at Clark University. Registration is optional and open to all Clark students as well as to qualified non-Clark students. This seven-week term provides a wide selection of normal departmental and interdepartmental course offerings supplemented by a number of special programs and academic opportunities unavailable during the fall and spring semesters.

It is possible, for example, to take a full year of a foreign language in this seven-week term. International field study and internship opportunities are also available.

The faculty is composed of the resident Clark faculty and invited visiting lecturers from other institutions and the Worcester community. A variety of recreational and extra-curricular activities are also an integral part of the program.

Currently, Clark students may accelerate their academic program by taking courses in the Modular Term. Clark students who have registered for four full courses throughout semesters one and two may receive a 20 per cent reduction on tuition to the Modular Term. In addition, Clark University dorm students may receive free dormitory accommodations during the Modular Term, while Clark off-campus students may receive a reduced rate for dormitory space during the Modular Term.

A catalog listing course offerings for the Modular Term is available in the spring.

THE EXTENDED UNIVERSITY

Since Clark is a member of the Worcester Consortium for Higher Education, students may enroll for one course each semester at either Anna Maria College, Assumption College, the College of the Holy Cross, Worcester Polytechnic Institute, Worcester State College, University of Massachusetts Medical School, and Becker, Leicester, Quinsigamond, and Worcester Junior Colleges.

Over four thousand students have cross-registered under the Consortium arrangement since 1968. Through the "extended University" then, Clark students immediately have available to them increased programs and course options. All of this is available at no extra charge to the students or their home institution.

Students from Holy Cross, Worcester Polytechnic Institute, and Clark University have worked together on a water pollution project. Consortium students have been involved in a lead-paint testing program. Engineering students from Worcester Polytechnic Institute, Massachusetts Medical School, and Quinsigamond Community College have worked with Clark students as a research unit for the Worcester Department of Public Health to conduct an infectious disease study. A health studies option which arranges student internships in health care organizations and internships with research scientists in laboratory settings, is available through the "extended University" as defined by the Worcester Consortium. A music option organized by the Department of Music chairpersons is also available. It is designed to accomplish three goals: to stimulate intercollegiate participation in performing groups, to encourage crossregistration in music courses, and to make available concentrated study for students with extensive music backgrounds. Courses at Consortium institutions should not duplicate those taught at Clark and require the approval of the department chairperson or, where necessary, the Dean of the College. Students enrolled in the day college may not enroll independently at other Consortium Institutions and receive Clark credit. To help students select cross-registration courses, the Consortium office compiles a master course list by subject. This list appears prior to registration and is located in the Registrar's Office.

NON-TRADITIONAL EXPERIENCES

Academic experiences outside the normal curriculum (e.g., internship experiences, off-campus research, study at non-accredited institutions) are eligible for course credit. To qualify, an experience must involve an extension, embodiment, or illustration in some significant way of previous or concurrent systematic academic work. It must also take place under competent supervision and the learning involved must be formally evaluated by a Clark faculty member. The goals and structure of the experience must be agreed to by the instructor and the student prior to the beginning of the experience. Course credit will not be given for work that duplicates previous course work or other prior educational experiences. Students seeking information on this topic should contact the Dean of Students.

ACADEMIC ACCELERATION

The University encourages academic acceleration for qualified undergraduate students. A student may earn the bachelor's degree in less than four academic years through a combination of Advanced Placement credit, overload course work, attendance in the Modular Term during the normal academic year, and participation in Summer Schools. No student may, except with the permission of the College Board, take overload work in his or her first semester in residence unless the overload is the result of co-recommended or co-required one-quarter or one-half courses (e.g., some science laboratory courses). Students may, after the first semester in residence, take up to four and one-half courses over a semester period. Academically qualified students (defined as three out of four courses with a B+ or better, and no D's, in all courses taken during the previous semester) may, with the signature of the student's adviser or department chairperson, be eligible for further overload course work.

NORMAL PROGRAMS

The undergraduate normally carries a full program of four courses in a given semester. In general, a course

meets three times weekly for a semester. Laboratory periods are usually three hours long. Students should consult their faculty adviser or major department when questions of course or program selection arise.

PARTIAL PROGRAMS

Under special circumstances, students may be permitted by the Deans of Students to register for a semester program of less than three courses. Such students are designated as part-time students.

ORIENTATION

Freshmen and transfer students attend an orientation program held on the campus for several days before the academic year begins. The intent of this program is to assist students in registering for a program of studies and to familiarize them with the Clark and Worcester communities. Placement examinations will be given and opportunities will be provided for students to attend individual and group meetings with faculty and other students.

ACADEMIC ADVISING

At orientation and during the first year, new students are provided the opportunity to meet in groups and individually with faculty members in order to obtain advice regarding course program and related matters. Each student is encouraged to request a faculty adviser. Toward the end of their freshman year, students are asked to indicate their preference for adviser from the major department, and advising responsibility at that point is assumed primarily by the various academic departments.

ADVANCED PLACEMENT

Placement in advanced courses is determined by individual performance on special departmental placement examinations or, in some instances, on the Advanced Placement and Achievement Tests of the College Entrance Examination Board. Two course credits for certain courses completed in high school will be granted toward the bachelor's degree if a student has received a 4 or 5 on a College Entrance Examination Board Advanced Placement Test. Students who received a 3 on an Advanced Placement Test may be granted some amount of credit only at the discretion of the appropriate academic department.

REGISTRATION

Every student registers for a specific number of courses at the start of Semester 1 and Semester 2. A special registration will be held for Modular Term. Notification of the dates registration occurs is given in advance; failure to register within the announced period occasions a late registration fee. Students are strongly urged to register at advance registration. While enrolled at

Clark during the academic year, a student will receive credit only for work registered at or through Clark.

STUDY ABROAD

Students are able to integrate study abroad programs into their course of studies at Clark. Through the University's affiliation with the Institute of European Studies, campuses in Vienna, Freiburg, Paris, Nantes, Madrid, Durham, and London are readily accessible to Clark students. For further information and to explore the possibilities of a study abroad program for a summer, one semester or an entire year, contact Mr. Schatzberg, Department of Foreign Languages and Literatures.

For information on Clark University's program in Guadalajara, Mexico for the Modular Term, one semester or an entire year, contact Mr. D'Lugo, Department of Foreign Languages and Literatures.

A foreign study listing is available in the International Programs Office. Programs for study abroad must be approved by the College Board.

JEWISH STUDIES PROGRAM

Courses in Jewish Studies are offered at Clark as interdepartmental disciplines and within various departments including the Department of Foreign Languages and Literatures, Department of History, Department of Sociology, and School of Geography. Independent nondepartmental courses are also offered. Courses included in the program are listed under Jewish Studies in the catalogue.

WASHINGTON SEMESTER PROGRAM

Clark participates in the Washington Semester program of the American University in Washington, D.C. Under the program, a small number of superior students may be nominated to attend the program, usually in the junior year, studying United States government in the nation's capital. Although any student may be interested in the program, the opportunity should be particularly attractive to students majoring in government, international relations, history, economics, or sociology. A credit of four courses is given for the program toward the bachelor's degree at Clark. Inquiry and application should be made to the chairman of the Department of Government and International Relations.

SUMMER SCHOOL COURSES OTHER THAN CLARK'S

Credit toward a degree for study at a summer school other than the Clark Summer School must be approved by the Registrar no later than registration day of the following semester. Students are strongly advised to confer with the Registrar prior to taking summer school courses to assure acceptability of credit toward the Clark degree.

GUEST AND SPECIAL STUDENTS

The University provides for quest students from other colleges and universities who wish to study at Clark for one or two semesters and for special students who wish to take only a few courses without enrolling as degree candidates. Students enrolled as guest students should contact the Admissions Office. Persons interested in special student status should contact the COPACE Office.

NON-CREDIT AUDIT STATUS

Persons not enrolled as full-time Clark students who wish to audit courses on a non-credit basis are invited to do so. Approval of the instructor of the course is required. In limited-enrollment or sectioned courses, regularly enrolled Clark students are given preference for available openings. Registration is arranged through the Registrar's Office. A fee of \$152 per course will be charged.

NOTE: Records for non-matriculating auditors are kept for only the semester in attendance. Transcripts are not issued at the conclusion of the course, nor at a later date.



Requirements for a Bachelor's Degree

GENERAL REQUIREMENTS

Course requirements: Credit toward the Bachelor of Arts degree is expressed in terms of courses. A course, normally one semester in duration, involves three class

meetings of 50 minutes each and three to four hours of laboratory, where appropriate, per week. A course may sometimes be offered at half-strength or double-strength intensity over a half-semester.

Minimal academic performance: To graduate with the B.A. degree, a student must receive passing grades in the 32 full courses required for graduation; he or she must receive a C- or better in at least 24 of these courses. Equivalencies for students with fewer than 32 courses in residence will be established by the College Board.

For the purpose of transfer, a full course is equivalent to four semester hours credit.

RESIDENCE

Normally, at least one-half of the total number of courses required for a bachelor's degree, as well as at least one-half of the total number of courses taken for the fulfullment of the major, must be taken at Clark University. Of these, eight of the last 16 courses must be completed at Clark. This policy is presently under review by the Undergraduate Academic Board.

TOTAL COURSE REQUIREMENTS

Successful completion of a total of 32 full courses is required for the bachelor's degree.

GROUPS

Courses may be obtained at the undergraduate level in the following fields of instruction which, for administrative purposes, are known as "groups."

Group A. Science and Mathematics: biology, chemistry, experimental psychology, geology, mathematics, and physics.

Group B. Social Sciences: economics, education, geography, government, history, international relations, linguistics, philosophy, psychology, and sociology.

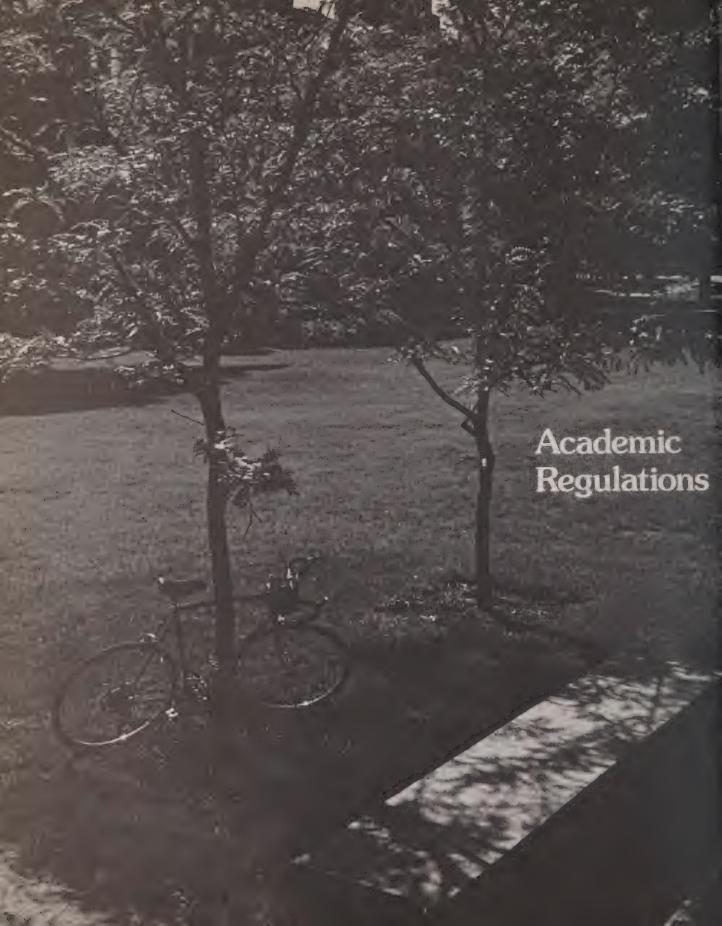
Group C. Language and Literature: English, classics. comparative literature, French, German, Hebrew, Italian, Russian, and Spanish.

Group D. Fine Arts: studio art, art history, music, theatre art, and film.

Group E. Interdisciplinary Studies: environmental affairs; humanistic studies; Science, Technology and Society.

MAJOR REQUIREMENTS

Major: A departmental major consists of from 12 to 19 courses taken from those designated by the department in the Program of Advanced Studies. No department may require a student to take more than 19 courses in the expanded major, but a student may take more than 19 courses if he or she meets the other requirements for graduation.



GRADES

Reports on the work of each student are made at the end of each course. At the time of final registration, each undergraduate student must elect one of two reporting patterns for each of his or her courses, unless the option has been explicitly restricted for that course. First, the student may elect to receive an A, B, or C grade, with modifying symbols plus and minus, or D; or No Record. Second, he or she may elect to receive the letter P (indicating successful completion of the course at C- or better) or No Record. If the grading option is restricted by the instructor, the student may receive a Cr (indicating successful completion of the course at C- or better) or No Record. Courses in which students receive No Records do not appear on the student's permanent record.

The faculty accepts the following qualitative description of grades:

In reference to the Clark student body as a whole over the long run,

A indicates work of distinction, of exceptionally high quality;

B indicates good work, but not of distinction;

C indicates satisfactory work;

D indicates marginal work;

NR indicates unacceptable work.

INCOMPLETES

A record of incomplete may be permitted by approval of the College Board or Deans of Students only when sickness or some other unavoidable circumstance prevents completion of the course. A record of incomplete incurred in the first semester must be made up no later than the following April 1; if incurred in the second semester or in the Modular Term, it must be made up no later than the following October 1. If a course is not completed within the specified time, the record of Incomplete is changed to one of No Record.

CUMULATIVE SUMMATION OF GRADES

A yearly cumulative summation of the number of grades received in each grade category, compared with the institutional distribution of the grades, will appear on each student's transcript. There will be no calculation of a student's grade point average on the transcript.

ELECTION OF THE PASS OPTION

The availability of the Pass option in virtually all courses is designed to help minimize the competitive aspects of grading for those who find competition harmful to learning. Some students may wish to elect a number of their courses on this basis.

All students should remember that the great majority of graduate and professional schools have expressed a preference for graded transcripts and encourage applicants to have many graded courses. Pre-professional students and those for whom graduate school is a goal

should exercise caution in employing the Pass option. Similarly students who have interest in the attainment of honors such as Phi Beta Kappa and general course honors at graduation should exercise the Pass option cautiously.

RESTRICTION OF OPTION

A department may, with the approval of the Undergraduate Academic Board, restrict the grading option for its majors in the major program. An individual faculty member may, with the approval of the Undergraduate Academic Board, offer a course on a Credit/No-Record basis.

WITHDRAWAL FROM COURSES

A student may withdraw from any course at any time during the first four weeks of classes, regardless of the grade thus far attained in that course, providing that, after withdrawal, he or she is carrying no fewer than three courses. Withdrawal from courses during the last two weeks of classes requires permission of the College Board.

COURSE CHANGES

A student may enter a course without special permission, unless such permission is required, any time up to final registration at the end of the second week of classes. After the second week, a student may enter a course with the permission of the instructor up to four weeks after the beginning of classes in a semester length course. Thereafter, a student may enter a course only with the permission of the instructor and the College Board.

CLASSIFICATION OF STUDENTS

All students who have not been required to withdraw at the end of the academic year will be promoted if they have satisfactorily completed the following number of courses:

To the sophomore class 6 courses To the junior class 14 courses To the senior class 22 courses

PROBATION

A student whose accumulated courses at the end of one semester are less than three (or less than two and one-half in the case of a freshman) will be reminded by the Dean that he or she is in jeopardy of being required to withdraw.

DISMISSAL

A student may be required to withdraw from the college by failing to complete successfully the following number of courses through the academic year:

Introductory Program (freshman) 5 courses Program of Advanced Studies 6 courses

PLAGIARISM

In order to insure academic integrity and to safeguard students' rights, all cases of plagiarism should be reported to the College Board. Such reports of plagiarism should be carefully documented, and students accused of the infraction notified of the charge. Students found guilty of plagiarism are liable to suspension or expulsion.

EXAMINATIONS

Final examinations are given at the end of each course in many college courses. Approximately one week is set aside for each examination period and an attempt is made to distribute the examinations for any individual student throughout this period. Absence from a final examination, except for the most compelling reasons, may result in a No Record in the course. Other examinations and tests may be given at any time during the course at the convenience of the instructor.

CLASS ATTENDANCE

The college has no class attendance requirements. However, instructors have the prerogative of establishing such requirements for their own courses.

LEAVES OF ABSENCE

A student who is in good standing may apply to the Deans of Students for a leave of absence, after which he or she may return to the University without formal application for readmission.

Honors and Awards

DEPARTMENTAL HONORS

A student may elect a program leading to a bachelor's degree with honors in a particular subject at the beginning of the junior year and, in some cases, at the beginning of the senior year. Under the plan, the department appoints an honors adviser who assists the student in planning a unified program of courses for the junior and/or senior years. The program may include a maximum of six courses in which the student works with a large measure of independence under the supervision of the adviser. In the senior year, the student must pass a comprehensive examination given by the department.

Students may apply in writing to their major department for permission to take honors work, not later than May 1 of the sophomore year or, in some departments, in the junior year. Department approval is necessary for admission to such work. In exceptional cases and in certain departments, application may be made and admission approved by the department

concerned as late as the first two weeks of the senior year but only with consent of the College Board.

Admission to an honors program does not relieve the student from any of the standing regulations. A student's candidacy for honors will be terminated at the end of any semester in which he or she has not maintained a standard satisfactory to the department in which the honors work is being done.

The department may recommend the student's graduation with honors, high honors, or highest honors, the recommendation to occur at the conclusion of the honors program.

GENERAL HONORS

General Course Honors are determined by the College Board annually on the basis of 8 semesters' work or its equivalent. Criteria such as grades, percentage of courses taken on P/NR and graded basis, and number of courses at Clark are used for determining the awarding of General Honors. Ordinarily 3/4 of a student's record at Clark must be graded if he or she is to be eligible for General Honors.

PHI BETA KAPPA

Tuition

TOTAL

The Society of Phi Beta Kappa, founded at the College of William and Mary in 1776, is dedicated to the recognition and encouragement of outstanding scholarly achievement in liberal studies. The Clark Chapter, Lambda of Massachusetts, was established in 1953. Each year, a limited number of juniors and seniors are elected to membership on the basis of distinction in programs which are clearly liberal in character, with due consideration of evidence, both formal and informal, of high scholarship and creativity.

Tuition and Other Charges

SUMMARY OF TUITION AND OTHER CHARGES FIRST AND SECOND SEMESTERS ACADEMIC YEAR 1976-77

ration	ゆ つのとつ	
Room (Single \$860, Double \$760)	760	
Board (19 meals \$845, 10 meals		
\$665, 5 meals \$445) (Plus 8%		
méal tax)	845	
Consolidated Fee	75	
Student Activity Fee — \$46.50 per semester	93	
Sub-total for continuing students	\$5398	
Charges which apply to new students only:		
Contingency Deposit	\$ 25	
Orientation Fee	30	
	-	

\$5453



Other Fees

Health and Accident Insurance (optional)	\$61.00
Application Fee (undergraduate)	20.00
Transcripts (no charge for the first one)	1.00

Deposits

Admission Deposit (new students)	\$100.00
Tuition Deposit (upperclassmen)	200.00
Dormitory Deposit	50.00
Key Deposit — Dormitory Room	5.00
Key Deposit — Mailbox	1.00

GENERAL INFORMATION

Tuition, board, dormitory charges, and certain fees are due and payable prior to the beginning of each

semester. These dates for 1976-77 are August 16, 1976 for Semester 1 and December 17, 1976 for Semester 2. Students are not permitted to register for any semester until all financial obligations have been satisfactorily arranged with the University.

There is a late fee of \$25.00 assessed against all accounts not paid in full by the August and December due dates. In addition, interest at the rate of 1 per cent per month (annual rate, 12 per cent) will be charged on all balances (including tuition deposit) 30 days or more past due.

REFUND POLICY

Withdrawals are arranged in the Dean of Student's Office. A student who officially withdraws in writing

during the first week of any semester is allowed a refund of 80 per cent on tuition; during the second week, 60 per cent; during the third week, 40 per cent, during the fourth week, 20 per cent; after the fourth week there is no refund. The Consolidated Fee and Activities Fee are refunded by the same formula. There is no refund on other charges, except board, when a student withdraws from the University.

When a student has left, but not withdrawn from, the University on the advice of a doctor within the first four weeks of a semester, and a decision is made later that the student must withdraw, tuition refund is made retroactive to the date of the doctor's recommendation, based on the schedule described above. A detailed statement of the refund policy may be obtained in the General Office.

PROGRAM REDUCTION POLICY

A normal academic program is comprised of four courses each semester. Part-time status is allowed only with prior permission of the Dean of Students. If given permission to register for less than four units, a standard surcharge of \$181.25 (10 per cent of tuition) will be added to the prorated tuition charge. For example — the charge for three units would be \$1,359.38 + \$181.25 = \$1,540.63.

CONSOLIDATED FEE

A fee of \$37.50 per semester including matriculation, graduation, laboratory, and health services fees is charged to all matriculated students regardless of the number of courses taken.

ORIENTATION FEE

\$30.00 is assessed all new students to cover food and other related costs during orientation.

CONTINGENCY DEPOSIT

All undergraduates are required to pay a \$25.00 deposit to cover minor charges, such as property damage, which may be incurred during the year. They are billed each year for whatever charges are incurred; the balance is refunded upon completion of their studies.

DORMITORY DEPOSIT

A dormitory deposit of \$50.00 is required each spring of upperclassmen to reserve a place in a dormitory. It is credited toward the dormitory charges. The deposit is *forfeited* if the student does not enroll for the specified semester.

STUDENT ACTIVITY FEE

A fee of \$46.50 per semester, levied and administered by the Student Council, is required of all matriculated

undergraduates. It pays for admission to and participation in a wide range of cultural and recreational activities.

APPLICATION FEE

A fee of \$20.00 must accompany the application for admission to the college. It is *not refundable*.

ADMISSION DEPOSIT

A deposit of \$100.00 is required of applicants when they accept the University's offer of admission. It is credited toward charges for the first semester. The deposit is *forfeited* if the student does not enroll for the specified semester.

TUITION DEPOSIT

A deposit of \$200.00 is required of all students planning to return to the University for their sophomore, junior, or senior years. It is payable by July 1, and is credited toward charges for the fall semester. \$100 of the deposit is forfeited if the student does not enroll for the specified semester.

KEY DEPOSIT

A deposit of \$5.00 for each room and \$1.00 for each mailbox key is required, refundable upon the return of the keys. The deposit is forfeited if the key is lost, or is not returned within 30 days after the close of school or departure of the student from campus.

IDENTIFICATION CARD

Identification cards are issued each year to all students without charge. This card is your official college identification and should be carried at all times. Loss should be reported immediately to the General Office. There is a \$3.00 replacement charge for lost IDs.

CLARK UNIVERSITY TUITION BUDGET PLAN

The University offers a budget plan that is designed for families who find it more satisfactory to budget college costs from monthly income as opposed to the traditional twice yearly payment system. Under this plan, annual college charges are divided into 10 consecutive monthly payments. The initial payment is due in May and the final payment will be due in February of 1977. The only fee for participation in this plan is \$25.00. This fee includes the cost of automatic life insurance coverage guaranteeing payment of the balance of the budgeted amount to Clark University in the event of the death of the insured parent. This program is administered for Clark University by Academic Management Services in Pawtucket, Rhode Island. Information regarding this plan is mailed to all students who are offered admission to the University.



DINING HALLS

Dining Halls in Dana Commons and Jefferson Hall are operated for the convenience of students and staff of the University. Service is cafeteria style. The snack bar in Dana Commons is open to all members of the Clark community. A cafe where beer, wine and snacks are served is located in Dana Commons, and is open to members of the University community who have passed their 18th birthday.

KOSHER MEAL PLAN

A Kosher Meal Plan, organized by the Clark Chapter of Hillel, is available, at an additional charge, for students who wish to observe Kosher dietary laws. At the present time, the plan provides for noon and evening meals.

DORMITORIES

Freshmen are ordinarily expected to live in University dormitories. Upperclassmen usually have the option of living in dormitories or moving off campus into private apartments. A request to live on campus is considered binding for the academic year; exceptions, of course, are made if a student withdraws or takes a leave of absence.

HEALTH SERVICE

The University Health Service provides out-patient facilities for minor medical services to all students. A nurse-practitioner, two part-time nurses and two part-time physicians are in attendance. Other physicians, health specialists and hospitals are available in Worcester.

PSYCHOLOGICAL SERVICES

The Clark University Psychological Services Center offers psychodiagnostic, psychotherapeutic, and referral services to members of the Clark community. Administratively the Center is part of the Department of Psychology and is a training agency for graduate students in clinical psychology. A significant portion of the Center's work is done by graduate students under supervision of several faculty-staff members who are clinical psychologists. There is also a part-time psychiatric consultant. A brochure describing the Center and its services may be obtained at the Center's main offices in Room 301 of Jonas Clark Hall.

FRATERNITIES

Tau Epsilon Phi, Clark's only fraternity, maintains a house near the campus at 40 May Street. Its members are involved in numerous campus organizations and sponsor small dances which are open to the entire Clark community, as is the fraternity itself.

KEYS AND KEY SECURITY

Key Deposit: A deposit of \$5.00 for each room key issued is required, refundable upon the return of the key. A \$1.00 deposit is required for all mailbox keys, also refundable upon return of the key. The deposit is forfeited if the key is lost, or is not returned within 30 days after the close of school or departure of the student from campus.

I.D. Required: Clark I.D. cards must be shown for issuance of keys.

OFFICE OF CAREER PLANNING AND PLACEMENT

The Office of Career Planning and Placement is a resource to which students are encouraged to turn for individual assistance in working through the relationships between undergraduate study, their personal values and goals, and their post-commencement options.

Students and alumni of the University may use the services of the Office of Career Planning and Placement which include: (1) a library of graduate and professional school catalogs and a variety of directories and programlistings which are available to students in their search for desired fields of graduate/professional study; (2) extensive information about career possibilities of interest to Clark students, extending from traditional fields of endeavor to new, developing, and non-traditional career areas; (3) strong support for students in their senior "job-search" process, including directories of organizations which are potential employers in many fields, help in the process of resume-writing, and a resume-mailing service; and (4) professional help in these specific services by means of informal conversation. interest surveys, and counseling.

Physical Education and Athletics

Programs are designed to stimulate and encourage students to wider participation in physical activities, to promote health and mental efficiency, and to lead to continuing participation throughout life. Participation is voluntary.

INTERCOLLEGIATE ATHLETICS

For students with a reasonably high level of skill and a well-defined and strong interest in athletic competition, intercollegiate schedules are arranged in soccer, crosscountry, golf, hockey, baseball, and track for men; for men and women, in basketball, crew, and tennis. Additional intercollegiate competition may be arranged as student interest warrants.

Clark University is a member of the National

Collegiate Athletic Association, the Eastern College Athletic Conference, the New England College Athletic Conference, and numerous sports associations. Clark is an N.C.A.A. Division III school and typically competes with the following Division III, Division II, and Division I constituency: Amherst, Williams, Brandeis, Tufts, M.I.T., Bates, Bowdoin, Colby, Middlebury, Coast Guard, Assumption, Holy Cross, WPI, Springfield.

basketball, fencing, golf, gymnastics, horseback riding, sailing, swimming, tennis, softball, volleyball, and in several dance activities, including folk, square, and modern dance. The same activities are available to men's and women's groups. (Off campus arrangements may be made for golf, sailing, horseback riding, and swimming.)

INTRAMURAL ATHLETICS

The opportunity to gain some of the benefits of participation in competitive athletics is offered to all students through organized intramural competition in touch football, basketball, volleyball, tennis, handball, table tennis, paddle rackets, and softball.

COED RECREATIONAL ATHLETICS

Students may participate in coed and recreational leisure-time activities including archery, badminton,

Admission

FRESHMAN ADMISSION

Clark University welcomes applications for admission from men and women without regard to race,



creed, color, or national origin. Selection is competitive and is based primarily on academic promise as indicated by secondary school performance, recommendations, and Scholastic Aptitude Test scores. Secondarily, decisions reflect consideration of the individual experience and particular circumstances unique to each candidate.

ENTRANCE REQUIREMENTS

In general, the completion of a minimum of 16 acceptable units of credit in a four-year secondary school program or its equivalent is required for admission to the freshman class. Such preparation typically includes four years of English; two or more years of any foreign language studied; two or more years of mathematics (three or more for those planning a science or mathematics major); at least one year each of social studies and natural science (more laboratory work for those planning a science major); and other credit electives, including the arts, recognized in the seconday school curriculum.

SCHOLASTIC APTITUDE TEST

All applicants must submit by January of their final year of secondary school the results of the Scholastic Aptitude Tests as administered by the College Entrance Examination Board. Achievement Tests are not required.

EARLY ADMISSION

Applications from accelerating students are encouraged when supported by unqualified and enthusiastic school recommendations. Official records of all secondary schools must be submitted in every case.

EARLY DECISION

Realizing that many students do not decide on their first choice of college until well into their senior year in secondary school, Clark has established two application deadlines for Early Decision candidates. Any student who submits an application and registration fee of \$20 by November 1, clearly indicating Clark as his/her first choice, will be notified by December 1. All other applications indicating Clark as first choice should be received by January 15, and will be acted upon by February 15. Although participation in Clark's Early Decision Plan does not preclude regular applications to other colleges, it does imply a commitment by the student to withdraw all other applications upon notification of acceptance. A deposit of \$100.00, non-refundable, is required of accepted candidates.

REGULAR ADMISSION

For freshman admission in September, candidates should initiate an application as early as possible during the first semester of the final year in secondary school, and no later than February 1. An application fee of \$20,

non-refundable, must accompany each application unless a waiver is being requested.

NOTIFICATION OF ADMISSION AND DEPOSIT

Time of notification of admission to the incoming freshman class is normally on or about April 15. Students who have applied for Early Decision will be notified on or about December 1 or February 15.

Upon receipt of a formal offer of admission, undergraduate candidates must indicate acceptance of the offer by making an admission deposit of \$100.00, non-refundable, to reserve a place at the University. This deposit is credited toward the first semester charges.

DEFERRED ENROLLMENT

Students wishing to elect the deferred enrollment option must submit a request in writing. The tuition deposit becomes due on April 1 of the following year for September enrollment, or by December 1 for the following January. Students seeking deferred enrollment should be prepared to submit transcripts of work completed elsewhere, if appropriate.

ADVANCED STANDING

Freshmen may enroll with advanced standing upon presentation of a transcript for college-level work already completed. Additional credit or placement may be earned on the basis of Advanced Placement Test scores of 4 and 5. Scores of 3 are awarded credit at the discretion of the department concerned.

Further information concerning testing programs may be obtained from the student's college adviser or from the College Entrance Examination Board which may be addressed in the East at Box 592, Princeton, New Jersey 08540, and in the far West at Box 1025, Berkeley, California 94701.

CAMPUS VISITS AND INTERVIEWS

Candidates for admission are encouraged to visit the campus and are invited to write or call the Admissions Office for detailed information concerning schedules, organized tours, appointments, and interviews. Although campus interviews are not required of applicants, we welcome the opportunity to arrange them for students wishing to visit Clark.

HOUSING ARRANGEMENTS

All single freshmen not living with their families are expected to live in University dormitories. Rooms are assigned by the Dean of Students during the summer prior to the arrival of the freshman class. Inquiries about housing should be sent to the General Office.

TRANSFER APPLICANTS

Clark welcomes applications for admission with advanced standing from students attending two- and four-

year institutions. The majority of students admitted enter at the junior level; many do, however, transfer to Clark with sophomore and advanced freshman standing.

Of special interest to transfer candidates are the University's B.A./M.A. program options in Comparative Literature, Environmental Affairs, and International Development and Social Change.

The application deadline is May 1 (December 15 for places available at mid-year).

TRANSFER REQUIREMENTS AND NOTIFICATION

All applicants for transfer are required to submit evidence of good standing, complete transcripts of all previous academic work, secondary level and beyond, including the Scholastic Aptitude Test if taken, and any other information requested by the Admissions Committee such as recommendations and course description catalogs. Decisions are announced as soon as possible depending upon completeness and scope of records.

TRANSFER CREDIT

Credit is normally given for academic courses previously taken at accredited colleges and universities and for Advanced Placement Test results as described above. Credit for courses at non-accredited institutions is granted on a provisional basis to be evaluated upon successful completion of two semesters of full-time work at Clark. No credit is given for any course completed with a grade lower than a C-minus.

Evaluation of credits for college courses completed elsewhere is made at the time of admission or upon receipt of final transcripts and is used in planning a course program and in provisional classification as a freshman, sophomore, or junior. A maximum of 50 per cent of both the Clark B.A. degree and the departmental major requirements may be accepted in transfer, and normally a minimum of two academic years at Clark is necessary for completion of degree requirements.

Undergraduate **Financial Aid**

GENERAL INFORMATION

Financial aid is allocated on the basis of financial need and academic performance and consists of scholarships, grants, loans, and part-time employment. The Committee on Financial Aid assesses each student's financial circumstances on the basis of the computation system established by the College Scholarship Service of the College Entrance Examination Board, Princeton, New Jersey, or the American College Testing Program, Iowa City, Iowa. The assessment takes into account family income and assets, age of parents, financial commitments to other dependents and members of the family, and other special circumstances. It is expected by the University that a student's resources for education will come first from family resources and his/her own savings and earnings.

COSTS

Expenses at Clark vary from student to student, but an average student expense budget (1976-77) is as follows:

	Resident	Commuter
Tuition	\$3625	\$3625
Consolidated Fee	75	75
Student Activities Fee	93	93
Orientation Fee		
(Freshmen and Transfers only)	30	30
Contingency Fee		
(Freshmen and Transfers only)	25	25
Insurance (Optional)	61	61
Room and Board		
(19 Meal Plan and Double Room)	1600	
Books and Supplies - Average	150	150
Clothing, Laundry, Recreation,		
Incidentals	450	400
Travel	*	175

^{*}A reasonable allowance should be budgeted for travel between the University and the student's home.

INDEPENDENT SOURCES **OF ASSISTANCE**

All applicants for financial assistance are urged to pursue independent sources of financial assistance. Scholarships are often awarded to graduating seniors by their high school and/or private scholarship agencies in students' local communities. Request additional information from your high school guidance office.

Residents of Massachusetts are expected to apply for a State Scholarship to the Board of Higher Education, 182 Tremont Street, Boston, Massachusetts. Entering freshmen may obtain application materials and further instructions from their high school guidance office. Clark upperclassmen should contact the Financial Aid Office. Out-of-state students should investigate the opportunity of using their state scholarship program at Clark.

A new and important source of federal financial assistance is now offered in the form of Basic Educational Opportunity Grants. These grants, which vary in amount up to \$1,400 per year, are available to students who demonstrate financial need according to federal regulations. Entering freshmen should obtain applications and further instructions from their high school guidance office. Clark upperclassmen should inquire at the Financial Aid Office for additional information.

The Guaranteed Student Loan Program is designed primarily for middle income families who do not qualify for other types of financial assistance. For those who need additional help, it may also be utilized as a resource to supplement scholarship, grant, and loan. Offered chiefly through lending institutions, this program is subsidized by federal funds. For those who qualify, the federal government will pay the 7 per cent simple annual interest while the student is in college. Loans up to \$2,500 per academic year are offered in most states. Total loans outstanding may not exceed \$7,500 for an undergraduate student. Additional information and application materials are available at local banks. Clark University is also a lender under this program and can make loans directly to qualified students. Information for entering freshmen and upperclassmen may be obtained at the Financial Aid Office.

Veteran's Benefits may be available for service veterans and children of deceased and/or disabled veterans. Eligibility can be determined by contacting your local Veterans Administration Office.

Social Security Education Benefits may be available for children whose parent(s) are deceased and/or disabled. Additional information is available at your local Social Security Administration Office.

Rehabilitation Assistance may be available for students who qualify for educational benefits. Information concerning rehabilitation services can be obtained at the State Rehabilitation Office.

CLARK UNIVERSITY FINANCIAL ASSISTANCE

Clark University makes a commitment to entering freshmen and thenceforth from year to year as long as they continue to show financial need. Although any student who enters Clark may apply for assistance as an upperclassman, guarantees are made only to those needy students who received aid their first year.

Assistance at Clark is "packaged" in the form of scholarship, loan, grant, and employment from the following sources:

Jonas Clark Scholarships - a portion of the University income is reserved for this purpose and gifts from alumni, parents, and friends provide additional scholarship funds.

Supplemental Educational Opportunity Grants part of a federal program of assistance to college students demonstrating exceptional financial need. Continued support from this fund is contingent upon annual congressional allocations.

National Direct Student Loans — long-term loans which bear no interest until nine months after a student ceases to be at least a half-time student at an institution of higher education. At that time, interest begins to accrue at the rate of 3 per cent on the unpaid balance. A person borrowing from this fund will repay the amount in equal installments of at least \$30 per month principal over an extended repayment schedule. Continued support is contingent upon annual congressional allocations.

Student Employment — available during the summer and part-time during the academic year. The basic source of funds for employment is the federal College-Work-Study Program. Jobs, offered as part of the package of financial assistance, and placement are handled by the Financial Aid Office.

Most scholarships awarded by the University are designated Jonas Clark Scholarships. Funds for these scholarships are derived from University income and from endowed funds as follows: Because of the various restrictions placed on these funds, it is the policy of the University to select eligible recipients. Students should not apply directly.

The Reginald Bryant Allen Fund The Alumni Group Scholarship The B'nai B'rith Scholarship The Gertrude and William Brodie Award The Reina and Isidore Chaiklin Scholarship Fund The Charles W. and Annie L. Bruninghaus Fund The Clark University Faculty Women's Club Scholarships

The Theodore T. and Mary E. Ellis Fund The Albert C. Erickson Scholarship The A.D. Ross Fraser Scholarship The Aaron Fuchs Memorial Scholarship Fund The Paul S. Goldman Memorial Scholarship The Bertram L. and Bessie T. Handleman Fund The Frank H. Hankins Scholarship The High School Basketball Tournament Scholarship

The Gertrude and Eva Hillman Scholarship The Frances Tufts Hoar Fund The Gordon A. Hubley Fund The M. Hazel Hughes Scholarship The George N. Jeppson Scholarship Fund The Dr. Edmund Randolph Laine Scholarship Fund The David Ashley Leavitt Memorial Scholarship

The Levi Knowlton Fund

Fund

The Elizabeth T. Little Scholarship Fund for Women The Homer Payson Little Scholarship in Geology The Livermore and Ambulance Drivers Scholarship

The Robert H. Loomis Scholarship

The National Council of Jewish Women Scholarship

The Alice Friend Newton Memorial Scholarship

The Abraham Persky Scholarship Fund

The Charles B. Randolph Fund

The Helen Brewster Randolph Memorial Scholarship

The Jennie L. Richardson Scholarship

The William Richardson Scholarship

The Sanford Memorial Scholarship

The Samuel Schanberg Memorial Scholarship Fund

The Fredric T. Sewall Scholarship Fund

The Henry L. Signor Scholarship

The Benjamin R. and Grace F. Vandeford Student Aid Fund

The Whitman Scholarship

The Henry A. Willis Scholarship

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Parents' Confidential Statement to the College Scholarship Service by February 1 and direct that a copy be forwarded to Clark University. The Parents' Confidential Statement may be obtained from the secondary school guidance office. Offers of financial assistance will be made within a few days of acceptance to the University. Early Decision candidates should file the Parents' Confidential Statement by November 1.

Prospective transfer students who are requesting financial assistance should submit the Parents'
Confidential Statement to the College Scholarship Service

at the same time application is made for admission. Award notification will be made concurrent with acceptance to the University, if possible; P.C.S. processing takes approximately four weeks. Applicants will not be required to post an admission deposit before receiving a financial aid decision.

Upperclassmen must reapply annually for financial assistance by submitting an updated Parents' Confidential Statement to the College Scholarship Service by April 1. In addition, a copy of the parents' previous year's income tax return (Form 1040) must be filed with the Financial Aid Office by April 30. Assistance is renewed as long as the applicant continues to demonstrate financial need.





GENERAL INFORMATION

Clark University was initially established in 1887 as the second graduate institution in America. Its faculty and graduates have endowed the University with an impressive record of accomplishments through the years. Under the administration of the Graduate Board, Clark offers programs leading to master's and doctor's degrees to qualified holders of a bachelor's degree or its equivalent of attainment.

Master of Arts degrees are offered in the fields of biology, biomedical engineering (in cooperation with Worcester Polytechnic Institute), chemical-physics, chemistry, comparative literature, economics, education, English, environmental affairs, geography, government, history, international development, international relations, mathematics, physics, and psychology. The Master of Business Administration degree is offered by the Department of Management. The Master of Public Service degree is offered by the Criminal Justice Program, the Public Administration Program, and the Public Health Program. A Master of Liberal Arts Program commences fall of 1976.

Doctor of Philosophy degrees are offered in biology, the biomedical sciences (in cooperation with the Worcester Foundation for Experimental Biology and Worcester Polytechnic Institute), chemistry, chemicalphysics, economics, geography, history, mathematics, physics, and psychology. A Doctor of Education degree is offered by the Department of Education.

Post-doctoral training is conducted in geography, psychology, and the sciences. Inquiries should be addressed to the chairman of the department concerned.

Departments which do not at present accept candidates for graduate degrees may offer courses which are suitable for inclusion in a program of graduate study.

Scholarships, fellowships, and assistantships are listed at the end of this section. Additional information concerning departments and their offerings will be found in the section entitled "Departments and Courses."

INQUIRIES

Inquiries by students in American institutions concerning specific programs of graduate work should be addressed to the chairman of the department concerned or to the relevant director of program. Please check catalog section, *Departments and Courses* for names of department chairmen and program directors. Inquiries by foreign students should be addressed to the Dean of the Graduate School.

ADMISSION TO THE GRADUATE SCHOOL

Admission to the Graduate School may be granted only by the Dean of the Graduate School acting for the Graduate Board on the recommendation of a department or program of the University. Admission to the school does not imply admission to candidacy for a degree.

Application: A prospective applicant from an American institution should communicate with the appropriate department or program head. If encouraged to make an application, the applicant will be provided with an application form which, accompanied by a \$20 application fee, should be returned to the department or program. In addition, the applicant should arrange to have sent an official transcript of all undergraduate and any subsequent academic work, and three letters of recommendation from persons who are competent to judge qualifications for graduate study.

Department or program heads may request the submission of additional material, and most require a record of attainment in the Graduate Record Examination given by the Educational Testing Service, Princeton, New Jersey. All applicants are urged to take, and to submit the results of, the Graduate Record Examination verbal, quantitative, and advanced tests.

A foreign student, if encouraged by the dean to make formal application, should provide a certified English translation of his or her official record (if not in English), evidence of English proficiency (TOEFL), at least two letters of recommendation, and a statement concerning the applicant's financial resources or agency support.

Applications both for admission and for financial aid should be completed not later than February 15 if the applicant intends to begin studies the following September. Applications for admission may be submitted, however, throughout the year.

Application for admission as a *special status* graduate student (not in a degree program) should be made through the Office of Career Planning and Placement.

Admission: Admission to the Graduate School is granted for entry only at a specified time and lapses if the student fails to enter at that time. Admission as a part-time graduate student may be granted to qualified applicants who cannot devote full time to study, upon recommendation of the department or program head.

If a student, when admitted, was a candidate for a degree elsewhere, he or she must arrange upon receipt of that degree to have a supplementary transcript, including a notation of the degree conferred, sent directly to the Dean of the Graduate School.

MASTER OF ARTS

Residence: An academic year (8 semester courses) of study in residence is a minimum requirement for a master's degree. Individual departments or programs may require longer periods of residency. Residence study is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

Foreign Language: Language or other special requirements are included in the department announcements in this catalog.

Candidacy: Application for admission to candidacy for a master's degree must be filed with the Dean of the Graduate School not later than the first week of the last full semester which the student expects to spend in residence as a candidate for a degree. Forms are

obtainable at the Registrar's Office.

Applications will be considered by the Graduate Board when the student has completed one semester of full-time graduate work or its equivalent in residence at the University and obtained the written endorsement of the major department or program.

Candidacy for the degree of Master of Arts is valid for four years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years on vote of the Graduate Board.

Course and Examination Requirements: Each student must complete at least eight semester courses in a program approved by the department. One course may be a research course devoted to the preparation of the thesis. Credit for a maximum of two courses at another institution may be approved by the Dean of the Graduate School upon recommendation of the department.

Each candidate must pass such written examinations as required by the major department and a final oral examination by a committee of three or more, one of whom must be a member of the Graduate Board.

Thesis: The thesis is written on a topic in the field of the student's special interest under the supervision of a member of the department and in a style, length, and format that is appropriate to the problem being researched. The ribbon copy of the thesis, a precis approved by the supervising instructor, and an academic history must be deposited in the Registrar's office not later than three weeks before the date of the commencement at which the degree is to be conferred. At least one additional copy of the thesis and the precis must be delivered to the major department, which may require more than one copy. The precis may not exceed 75 words in length. The title page, precis, and academic history forms are obtainable from the Registrar's Office. The ribbon copy of the thesis must be typed as prescribed in "The Master's Thesis." These instructions are available at the Registrar's Office.

The thesis is deposited by the Registrar in the University library. The precis is printed in an annual publication, *Dissertations and Theses*.

Diploma Fee: This fee for the Master of Arts degree is \$25.00. It covers the cost of the diploma, publication of the precis in the booklet Dissertations and Theses, and binding of the library copy. It is payable when the thesis is deposited with the Registrar. Students who do not write a thesis, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Alternative Program: A candidate for the degree of Master of Arts may be recommended for the degree without a thesis after passing preliminary doctoral examination.

Non-Resident Students: Students who have completed all formal University and departmental residency requirements are required to pay a non-resident fee of \$50.00 per semester.

MASTER OF ARTS IN EDUCATION

The residency, candidacy, course, examination, and diploma fee requirements are the same as those listed for the degree of Master of Arts.

Thesis: Students may choose one of three options, subject to the approval of the Department of Education. They may choose to: (1) prepare a thesis as required for the M.A. degree; (2) elect two additional subject-matter courses; or (3) elect a research-seminar in which papers are prepared and presented to fellow students and staff.

Further information concerning the degree of Master of Arts in Education may be found in the catalog section, "Departments and Courses," listed under the Department of Education.

MASTER OF BUSINESS ADMINISTRATION

This degree is offered through the Department of Management. For further information, see the catalog section "Departments and Courses," listed under the Department of Management.

MASTER OF PUBLIC SERVICE

This degree is offered through the Criminal Justice Program, the Public Health Program, and the Public Administration Program. For further information, request a catalog from the College of Professional and Continuing Education, Clark University.

DOCTOR OF EDUCATION

The program leading to the degree of Doctor of Education emphasizes human development and learning as it relates to curriculum, instruction, and evaluation, and in the sociology of education. The requirements for this degree closely parallel those for the degree of Doctor of Philosophy (see below). See catalog section on Department of Education for further information.

DOCTOR OF PHILOSOPHY

Only such candidates as give evidence of general proficiency, power of investigation, and high attainments in the special fields in which their major subjects lie will be encouraged to proceed to the degree of Doctor of Philosophy.

Residence: The minimum requirement is one year of full-time study (8 semester courses beyond the M.A.), or its equivalent in part-time work, in residence, which is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

If the degree of Master of Arts has been earned at Clark, this requirement is in addition to the residence requirement for that degree.

Foreign Language: Each graduate department sets its own language or related requirements as the student's field of research may demand, and must report such

requirements in each case to the Dean of the Graduate School. If a language is required, either the Educational Testing Service Foreign Language Tests or on-campus testing are employed at the discretion of the department.

Preliminary Examination: Upon completion of preparation in the fields of study, a prospective candidate takes a preliminary examination set by the major department. This examination may be written or oral, or a combination of both. The chairman of the department may invite non-members of the department from within or without the University to participate in the examination.

Candidacy: An application for admission to candidacy should be filed when the applicant has: (1) completed two full academic years of graduate work, or its equivalent in part-time work, including one year at Clark University; (2) completed the departmental requirements in a foreign language; (3) passed a preliminary examination in the chosen field of study; (4) obtained the written endorsement of the major department. Application forms are obtainable at the Registrar's Office.

Candidacy for the degree of Doctor of Philosophy is valid for four years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years by vote of the Graduate Board.

Dissertation: A dissertation, which is expected to make an original contribution to some special field of knowledge, is required of each candidate. The dissertation, approved by the chief instructor or dissertation committee, is laid before the examining committee at the final oral examination.

An abstract of the dissertation, not exceeding 600 words in length, and a precis, not exceeding 75 words, both approved by the instructor or committees under whom they were written, are also required.

Four weeks before the degree is to be conferred, the ribbon copy of the dissertation, together with two official title pages, an academic history, the ribbon copy of the abstract and of the precis, each in a form prescribed, must be delivered to the Registrar. At the same time, one or more copies of the dissertation and of the abstract may be required by the major department. The title pages, precis, and academic history forms are obtainable at the Registrar's Office. The ribbon copy of the dissertation must be typed as prescribed in "The Doctoral Dissertation" and "Suggestions for the Preparation of Doctoral Dissertations for Microfilming." These instructions are available at the Registrar's Office.

The Registrar deposits the dissertation and the abstract in the University library where they remain permanently. A microfilm copy of each dissertation is made by University Microfilms, Inc., of Ann Arbor, Mich., and is available for duplication by them on request. The abstract is printed in Dissertation Abstracts; the precis is printed in an annual publication, Dissertations and Theses.

Articles published in refereed journals may be accepted in lieu of a dissertation.

Final Examination: The final examination is oral and

lasts for at least two hours. Additional written examinations may be given if the major department so directs. The candidate is expected to defend the dissertation and, at the discretion of the examining committee, may be questioned on the entire special field of study. The oral examination is conducted by a committee of at least four members, composed of the chairman of the department, at least one other member of the Graduate Board, and such members of the department and non-members from within or without the University as the chairman may appoint. The chairman notifies the Dean of the Graduate School, at least one week in advance, of the time and place of the examination and the composition of the committee. The Dean is authorized to invite any person from within or without the University to be present and to assist in the examination.

Diploma Fee: This fee for the Doctor of Philosophy degree is \$85.00. It covers the cost of the diploma, hood. publication of the precis in the publication Dissertations and Theses, publication of the abstract in Dissertation Abstracts, and binding of the library copy of the dissertation. It is payable when the dissertation is deposited with the Registrar.

Non-Resident Students: Students who have completed all formal University and departmental residency requirements are required to pay a non-resident fee of \$50.00 per semester.

POST-DOCTORAL STUDY

Post-doctoral students are classified in three categories: Honorary Fellows who are visitors for varying lengths of time, always more than a few days, who wish to observe activities of a department, to study or to carry on research, but without formal teaching duties or support by the University; Research Associates who work full-time with designated members of the University staff on research projects, normally supported by grants, without formal teaching duties but with some responsibility for directing laboratory assistants; and Trainees who enroll in a formally offered post-doctoral training program.

The Honorary Fellow and Research Associates enjoy faculty status, although the extent to which faculty privileges may be granted may be restricted by availability of space and other resources.

GRADUATE SCHOLARSHIPS. **FELLOWSHIPS AND ASSISTANTSHIPS**

Graduate fellowships and scholarships are provided for well-qualified graduate students by the University from endowed funds and from other sources. Financial aid to graduate students is available also in the form of grants from a number of special funds, and in some departments, from sponsored research grants. A limited amount of part-time employment is available in the various offices and departments of the University. Students who receive awards must obtain permission from the department before accepting employment.

All applicants for admission who request financial assistance are required to file a Student Financial Statement with the College Scholarship Service as part of their application. This form, along with specific instructions, should be requested by contacting the applicant's prospective department or program. Financial aid is not necessarily based on an evaluation of the student's need. However, a portion of the assistance offered may be in the form of National Direct Student Loans or College Work-Study employment. Both of these federal programs require that a student demonstrate financial need by completing the Student Financial Statement.

APPLICATION

Application for a scholarship or fellowship to begin in September should be made before February 15 to the chairman of the department or program director in which the applicant expects to do major work. Late applications, after endorsement by the department, go to the Dean of the Graduate School for final approval.

RESEARCH FELLOWSHIPS

These fellowships may be awarded to graduate students who have fulfilled their residence requirements and who are pursuing a full-time doctoral program on campus.

TEACHING ASSISTANTSHIPS

There are three categories for Teaching Assistantship appointments:

1. Part-time Lecturer — a non-probationary, part-time faculty position which does not lead to consideration for tenure or faculty fringe benefits (TIAA, vacation, etc.). The student is responsible for a small class and should have considerable independence over all aspects of teaching and grading. The student will be under the general supervision and direction of a senior faculty member.

This category is reserved for the advanced student who has manifested, clearly, skill in teaching and is qualified and experienced in the subject to be taught. The student should be accorded as many faculty privileges as possible, *e.g.*, attending department meetings and having office space. Stipend for this position is \$3,200 for eight months.

2. Teaching apprentice — students with prior teaching experience, either as an undergraduate or as a graduate assistant. Responsibilities include conducting discussion sections for a course, supervising laboratory sections, running tutorial sessions, grading papers and projects, and discussing these with the undergraduate students.

The student in this category should be under the direction of a professor who would assume responsibility for the student's training as a teacher. Stipend for this category is \$3,000 for nine months.

3. Teaching Assistant — students with little or no teaching experience. Responsibilities include tasks that allow them to observe experienced teaching assistants or instructors and learn their pedagogical methods. Duties are assigned on a job basis and may include assisting other senior TAs, setting up and tearing down laboratory equipment and doing a variety of other tasks associated with teaching a course or section.

The assistant may grade examinations only if a part of a general grading team of assistants or under the direct supervision of a senior TA or instructor. Stipend for this category is \$2,800 for nine months.

The time commitment for each category is approximately half-time. Tuition will be remitted on all three categories. The number of hours of study an assistant at any level takes in addition to teaching responsibilities should be decided by the department chairman with overall supervision from the Dean of the Graduate School. The Internal Revenue ruling which states that payment for teaching is non-taxable provided it is a requirement for an advanced degree is still in effect, though with some detailed provisions. We have been informed that some cases at other schools have been questioned. If a student chooses to have tax withheld, he or she is usually entitled to a tax refund when filing with the Internal Revenue Service.

Note that the departments of Biology, Chemistry, Economics, Geography, Government, History, Mathematics, Physics, and Psychology require teaching experience for graduate degrees. See the departmental announcements in the catalog section on "Departments and Courses."

ASSISTANTSHIPS

In several departments, assistantships are available. They involve a variety of services including research with stipends to correspond, and usually provide the student with experience which will be useful in later professional work.

GRADUATE FELLOWSHIP AND SCHOLARSHIP FUNDS

Stipends for fellowships and scholarships are provided by:

The Alumni Association Fund, provided by alumni who hold the degree of Doctor of Philosophy to benefit students studying for that degree.

The George S. Barton Fund, a bequest from the Honorable George S. Barton of Worcester, to be used for the benefit of native-born citizens of Worcester.

The Elnora W. Curtis Fund, a bequest from Dr. Elnora W. Curtis (A.M. 1908, Ph.D., 1910) for the benefit of graduate students.

The Eliza D. Dodge Fund, to be granted to graduate students of limited means who are engaged in research work.

The Henry Donaldson Jordan Award in History, for high standard of scholastic achievement, and qualities of

character which will be valuable in the training of teachers.

The Joseph F. Donnelly Memorial Fund, a bequest from Lucretia F. Donnelly to help men who are enrolled in a course leading to the degree of Doctor of Philosophy.

The John White Field Fund, established by Mrs. Eliza W. Field to provide for the minor needs of a scholar or fellow.

The Austin S. Garver Fund, a bequest from Austin S. Garver, member of the Board of Trustees from 1908 to 1918.

Graduate School Scholarship Fund, a bequest from Alexander H. Bullock, a member of the Board of Trustees from 1926 to 1946, and president of the Board from 1938 to 1946.

The George Frisbie Hoar Fund, the gift of Andrew Carnegie in honor of the second president of the University's Board of Trustees.

The Myers Fund, a gift of George E. Myers (Ph.D., 1906) to assist graduate students to do research in education and pyschology.

The David J. Ott Scholarship, the scholarship designed to support a qualified student towards the Ph.D. degree in economics. The successful candidate is assured support (tuition plus stipend) for three years at Clark.

The Charles H. Thurber Fund, provided by Charles H. Thurber, member of the Board of Trustees from 1913 to 1938, and president of the Board from 1919 to 1937.

GRADUATE LOANS

Loans, bearing interest at three per cent per year after completion of residency, are available for full-time graduate students upon registration. Applications are available at the Graduate School Office.

Federal funds are available for graduate students at Clark University in the form of National Direct Student Loans. The maximum amount a student may borrow in any one academic year is \$2,500. The total amount a student may borrow as an undergraduate and graduate is \$10,000.

The National Direct Student Loan Program provides funds for long-term loans which bear no interest until a student has completed full-time study. Normally a person borrowing from these funds will repay the amount over a period of ten years. National Direct Student Loans are granted on the basis of financial need and available funds. All National Direct Student Loan commitments are made contingent on Congressional appropriation of funds annually for this program.

Contact Roger Keith, Director of Financial Aid, for further information on the National Direct Student Loan Program.

LOAN FUNDS

The Mary S. Rogers Scholarship and Loan Fund, established in 1926 for the benefit of students in the graduate school.

The Mary M. Thurber Fund, established by the late

Dr. Charles L. Thurber, former president of the University Board of Trustees, as a memorial to his mother.

For loans from these and other sources that may become available, application should be made at the Graduate School Office.

DEPARTMENTAL FUNDS

The Wallace W. Atwood Research Fund. The income of this fund may be used at the discretion of the staff in the Graduate School of Geography for the promotion of field studies in geography by any member of the staff, or any one of the alumni holding a graduate degree from the Graduate School of Geography, or for the publication of results of such research work.

The Chester Bland Fund. The income of this fund is preferably used to provide aid to a promising student, either in residence or engaged in research elsewhere under the direction of the Department of History. It may also be used to defray the expense of visiting lecturers or of departmental research.

The Wallace W. Greenwood Fund. The income only is to be divided between the Departments of Physics and Chemistry and to be used for any purpose within the scope of these two departments.

The Morton L. "Sonny" Lavine Foundation is a memorial to Lieutenant Lavine of the United States Army, World War II. The income is to be used for the promotion of research in the Department of History.

The Libbey Fund, bequeathed to the University by Mary E. Libbey, is to establish a fellowship in physical geography and to aid the department in that field.

HOUSING AND BOARD

Off-campus rooms and apartments for both men and women are available in the immediate area of the University and University accommondations may be available. For information concerning off-campus accommodation, contact directly the Office of Buildings and Grounds, which keeps a bulletin board of available off-campus rooms and apartments. For on-campus accommodation, contact the Office of the Dean of Students. The Graduate School Office will also be glad to assist students in finding housing. Students should plan to arrive a few days before registration in order to arrange for housing because of the limited number of suitable off-campus apartments in the immediate area.

Graduate students are invited to take their board in the University dining halls under one of the food plans available. They will also find the Snack Bar available for single meals.

HEALTH SERVICE AND INSURANCE

A low-cost insurance plan covering ordinary medical expenses and limited maternity benefit for married students is available through the University. Unless a student is protected by similar insurance, he/she must enroll in this plan, since all graduate students must be

covered by Health and Accident Insurance. Students are not automatically covered by this insurance but must apply for it through the Graduate School Office where applications are available. Blue Cross-Blue Shield will be offered as an alternate Insurance Plan.

Graduate students are entitled to use of the University Health Service for minor first-aid needs.

Graduate Tuition and Other Charges

GENERAL INFORMATION

Tuition and non-resident fees are due and payable within 30 days of date of issuance of invoice. Accounts 30 days or more past due are assessed interest at the rate of one per cent per month (Annual rate 12 per cent). Identification cards are provided each year of residence. A late registration fee of \$25.00 is charged if registration is not completed by the end of the first week of the semester. Candidates who are not in residence must pay the non-resident fee until the requirements for the degree are fulfilled; non-payment will automatically terminate candidacy.

SCHEDULE OF TUITION AND OTHER CHARGES

Tuition: Full program: \$1,812.50 per semester. If less than a full program, the student will be charged according to the fraction of a program indicated on the registration card by the chairman of the department.

Tuition for Special Graduate Students \$453.13 per course.

Other Fees — Payable at Registration:

Health Fee (Mandatory) \$12.50

Health and Accident

Insurance (Optional) Regular Coverage \$ 61.00 Single Students Married Student

& Spouse \$141.00 \$183.00 Family Plan

Diploma Fee: (payable at the time the thesis or dissertation is deposited with the Registrar):

Students who do not write a thesis or dissertation, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Master's Degrees \$25.00

Doctor of Philosophy and

Doctor of Education \$85.00

Non-Resident Candidate Fees: (payable on November 1 and March 1). If the thesis or dissertation is deposited with the Registrar before either date, no fee is charged for the semester.

The fees double upon renewal of candidacy. Master's Candidates \$50.00 per semester Doctoral Candidates \$50.00 per semester

(For the Master of Business Administration tuition and fees, write to The Clark M.B.A. Program, Department of Management, Clark University.)

(For the Master of Public Health tuition and fees, request a catalog from the College of Professional and Continuing Education, Clark University.)

REFUND

A student who officially withdraws in writing during the first two weeks of any semester is allowed a refund of 60 per cent on tuition; during the third week, 40 per cent; during the fourth week, 20 per cent; after the fourth week there is no refund. There is no refund on other charges, except board, when a student withdraws from the University.

The College of Professional and Continuing Education

The College of Professional and Continuing Education is the division of Clark University responsible for academic offerings taken by people enrolling in the University on a part-time basis in order to continue their education or upgrade their professional credentials. COPACE courses, conducted at times convenient to continuing education students, may be taken alone for personal enrichment or as part of a program leading to an undergraduate or graduate degree.

DEGREE PROGRAMS

Undergraduate programs are given leading to the following degrees:

Bachelor of Science in General Studies

Bachelor of Science in Business Administration

Bachelor of Fine Arts

For further information, write to Dean, COPACE, Clark University, for catalog on undergraduate programs.

Graduate programs are given leading to the following dearees:

Master of Arts in Mathematics, catalog available from COPACE office.

Master of Business Administration, catalog available from Director, Master of Business Administration program. Master of Liberal Arts, catalog available from COPACE office.

Master of Public Service in Criminal Justice, catalog

available from COPACE office.

Master of Public Service in Public Administration, catalog available from COPACE office.

Master of Public Service in Public Health, catalog available from COPACE office.

ADMISSION POLICY

Admission to COPACE courses and programs is open to Clark University students and to members of the Worcester community. Candidates applying for a degree program are required to submit records of their previous schooling.

The Summer School

SUMMER STUDY

Intensive instruction in numerous fields of study is offered in the summer program. A variety of courses is offered for undergraduates, graduate students, and teachers. A student may register for up to a maximum of 3.0 units of credit each summer, by attending both sessions. Evening courses are also available during the summer to all students to continue their education while engaged in daytime employment.

DEGREES AND CREDIT

All courses offered in the Summer School are accepted at Clark for credit toward bachelor's degrees unless they are specifically limited in the description of the course. Some courses may count toward the degrees of Master of Arts, Master of Arts in Education, and Doctor of Philosophy. However, approval for such courses should be obtained in advance from the student's major department.

Graduate students formally registered in the Summer School may, with the approval of their major department, enroll in thesis courses under the direction of regular members of the staff.

SUMMER SCHOOL CATALOG

Detailed information concerning the Summer School is contained in a Summer School catalog which may be requested from the COPACE Office.

SUMMER SCHOOL COURSES OTHER THAN CLARK'S

Credit toward a degree for study at a summer school other than the Clark Summer School must be approved by the Registrar no later than registration day of the following semester. Students are strongly advised to confer with the Registrar prior to taking summer school courses to assure acceptability of credit toward the Clark degree.



Integrated UndergraduateGraduate Programs

In the fall of 1973, Clark University inaugurated a new departure in higher education with the creation of a

number of programs which bridge undergraduate and graduate education. Noting the changes in graduate education and projected manpower needs in the United States, the University established a new set of program options for advanced undergraduate students. Each program normally covers a three-year span, beginning in the junior year and leading directly to an M.A. degree. The B.A. degree is awarded en route to the M.A. degree. The integration of undergraduate and graduate work usually accelerates student progress to an advanced degree. Each degree program has a strong career orientation, providing the student with the knowledge and skills to enter a profession directly or to continue on in a Ph.D. program elsewhere. Each program also emphasizes interdisciplinary education based upon a common core of course work and opportunity for individual professional interests. Formal application and admission to the program is required, and both Clark and transfer students are encouraged to apply. Transfer students interested in making application to the program should direct inquiries to the Admissions Office.

The University has approved programs of this type in comparative literature, environmental affairs, and international development. The program in comparative literature centers on a problem-oriented approach to literature and theatre. Students will, in consultation with an advisory committee, formulate an individualized program of study which will stress interdisciplinary perspectives around a particular problem or theme. The program in environmental affairs trains professionals for carrying out a particular set of functions (technical, administrative, research, evaluative, planning, and teaching) that relate to the understanding and management of environmental affairs. The program in international development trains planners, managers, organizers, and educators in international development.

Eventually, other integrated undergraduate-graduate programs will be added until a network of such programs is available as a new set of options in the university-college.

Interdepartmental program descriptions are included alphabetically with department and course listings.

Preprofessional Programs

While Clark does not offer majors in professional fields at the undergraduate level in the day college, there are a variety of offerings of interest to students who plan professional careers. The following sections briefly describe the courses and major offerings at Clark appropriate to preparation for careers in a number of areas.

CRIMINAL JUSTICE

Through its College of Professional and Continuing Education, Clark University offers a program leading to the attainment of a Master of Public Service degree. For undergraduate students interested in criminal justice as a discipline or as a career, the University offers over twenty courses that are relevant to the professional field. Examples from the list of relevant courses include: Government 222., Seminar: Public Policies and American Cities; History 223., Proseminar: American Constitutional and Legal History; Psychology 162., Psychoanalytic Interpretation of Behavior; Sociology 263., Deviance; Sociology 264., Juvenile Delinquency. For further Information or counselling on the feasibility of designing a program in criminal justice, write to Director, Criminal Justice Program, Clark University.

EDUCATION

For information about Clark's preprofessional program in Education, please see the departmental section.

LAW

Students interested in a prelaw program are advised to plan a broadly-based academic program which is liberal in character and which has adequate samplings drawn from the natural and physical sciences, social sciences, and humanities. While there is no specific major or constellation of courses which are recommended for all prelaw students, it is important that the courses selected lead toward the development of certain skills, among which are: (1) Communication and articulation skills: courses in composition, creative writing, as well as courses in history, philosophy, government, and other social sciences and humanities in which the ability to read and write well is stressed; (2) Quantitative analysis and graphical presentation: courses in mathematics, computer science, and certain courses in economics and geography which help develop the ability to compile, understand, and interpret data and to present and analyze it in graphical form; (3) Logic: the study of law requires the systematic analysis of propositions and of the conclusions that can be drawn from them. Thus, all courses which provide training in this skill, such as those in philosophy (logic), mathematics, and some of the natural and social sciences are highly desirable: (4) Critical understanding: courses in ethics (philosophy), history, sociology, and other social sciences which promote understanding of human institutions and values are recommended.

In general, the records of students applying to law schools will be evaluated according to several criteria, among which are: (1) the overall quality of grades, (2) the breadth and distribution of courses, and (3) evidence of advanced learning and scholarship.

Students who are interested in prelaw are urged to consult their faculty advisers, the members of the Prelaw

Advisory Board, and the prelaw *Handbook* which is available in the Office of Career Planning and Placement.

MANAGEMENT

Students interested in a career in business in particular or in management, in general, whether it be management in a profit or non-profit organization (government, health care delivery system, religious institution, etc.) should consider taking one or more undergraduate courses in management as electives or as part of an expanded major in some other related field.

While most managers were originally trained in a particular discipline, they generally find managerial competence requires skills far beyond their primary educational field. Since effective management requires competence in human relations, communication, leadership, and quantitative analysis, it is recommended that students take a cross-section of management courses and otherwise concentrate on selections from the undergraduate liberal arts program that provide an understanding of (1) Human relations and leadership: courses in psychology, sociology, anthropology, philosophy, government and international relations, and other offerings which stress the understanding of human behavior in a social context; (2) Quantitative analysis: courses in economics, mathematics, computer science. and other selections which emphasize quantitative understanding and competence in data analysis; (3) Communication and articulation skills: courses in composition, creative writing, and others which provide development of the abilities to read, write, and express oneself orally.

The undergraduate option in management may lead to a combined B.A./M.B.A. program in which the student is more comprehensively educated in organizational management. For a description of the M.B.A. program see the Management departmental section of this bulletin.

Students interested in a management option program should consult their faculty advisers and a member of the Department of Management.

MEDICINE AND DENTISTRY

Students who are interested in premedical or predental programs major in any of the sciences, social sciences, or humanities, but must complete — normally before the junior year — at least the minimum requirements for admission to medical and dental schools: one year of general chemistry; one year of general biology; one year of organic chemistry; one year of physics; one year of English. Calculus is also strongly recommended or required by many medical and dental schools. While there is considerable variation, some medical and dental schools encourage students to take courses in quantitative analysis, physical chemistry, and advanced biology. Proficiency in quantitative reasoning should be developed, and courses in mathematics, and in the sciences, as well as many social-science courses are

helpful toward that end. Although students are encouraged to take more than the minimum number of science courses required for admission to medical/dental schools, they are also urged to build breadth into their programs and to demonstrate their ability to handle successfully work in advanced courses. In selecting their courses and planning their programs, students are urged to consult their faculty adviser, members of the Premedical/Predental Advisory Committee, and the Handbook compiled by the Committee. Copies of the Handbook and other materials pertaining to premedical, predental, and other health-service education are available in the Office of Career Planning and Placement.

Library

The Robert Hutchings Goddard Library contains over 350,000 volumes. The major part of the collection is centrally housed, and an open-shelf system fosters free access to books and periodicals. Chemistry periodicals are available for reference at the Kraus Library in Jeppson Laboratory, and an extensive map library is housed in the Geography Building.

The collection reflects the history and growth of the University. The combined scholar's library of the early graduate school and the undergraduate library of Clark College have been developed through the years to serve the academic needs of the University. The richest holdings are in the fields in which graduate work has been offered for some years — biology, chemistry, economics. education, geography, government, history, international relations, mathematics, physics and psychology. More characteristically undergraduate in content are the collections dealing with music, fine arts, language, literature, religion, philosophy, and sociology. The Library pays particular attention to major bibliographical and reference tools, and annually receives over 1,900 periodicals. The acquisition and exchange of material is coordinated with other libraries in the Worcester area, and the Worcester Area Cooperating Libraries maintain a shuttle service to facilitate interlibrary borrowing.

The Robert Hutchings Goddard Library provides unusually fine quarters for the utilization of these collections. Completed early in 1969, the building has a potential capacity of 600,000 volumes and accommodations for 1,000 readers, of which 65 per cent are individual study desks. Among its features are the Goddard collection and exhibit area; the Wilson Rare Book Room; University archives; special facilities for art books, record listening, and microtext reading; student and faculty lounges; and an after-hours reading room.

The building is named in honor of, and as an international tribute to, Dr. Robert H. Goddard, Father of the Space Age, distinguished alumnus, and professor of physics at Clark from 1914 to 1942.



The courses listed in this catalogue are the ones we anticipate offering as of July 15, 1976. Due to circumstances beyond our control, such as changes in faculty staffing, it may not be feasible to offer the exact set of courses indicated herein. Thus a prospective student should anticipate the possibility of additions and/or deletions to the set of courses offered during the 1976-77 academic year.

Art

(See Department of Visual and Performing Arts.)

Astronomy

A single course is available at the introductory level.

Advanced topics directly relating to astronomy are listed under Physics. Students interested in advanced work in Astronomy should consult with the instructor or the Physics Undergraduate Advisor.

1. EXPLORING THE UNIVERSE.

This course is explicitly designed for the non-science major who wishes to learn about the stars. It is also intended to provide for the interests of the student who seeks an acquaintance with the concepts and methods of science but who does not wish the detail found in the traditional introductory science survey course. Topics considered are interdisciplinary in character since astronomy involves physics, chemistry, biology, and geology. The use of mathematics is minimized; only simple algebra is utilized. Half of the course is devoted to consideration of the planets and the sun. In the other half of the course, the stars, their life cycles and the galaxies are studied. Theories of the composition and origin of the solar system, of the universe and of life are explored. The heavens are best understood by having the student make direct observations of celestial objects. Emphasis is therefore placed on the making, analyzing, and reporting of observations on the moon, sun, planets, meteors, stars, variable stars, nebulas, and galaxies. Students make these observations using telescopes in the University Observatory as well as on several night field trips.

Dr. Andersen.

Biology

Full course, Semester 1.

DEPARTMENT FACULTY

Rudolph F. Nunnemacher, Ph.D., Professor of Zoology, Chrm. Vernon Ahmadjian, Ph.D., Professor of Botany John J. Brink, Ph.D., Professor of Biochemistry Joseph C. Curtis, Ph.D., Professor of Zoology** John T. Reynolds, Ph.D., Professor of Microbiology H. William Johansen, Ph.D., Associate Professor of Botany Robert G. Sherman, Ph.D., Associate Professor of Physiology Margaret Comer, Ph.D., Assistant Professor of Biology Samuel E. Johnson, Ph.D., Assistant Professor of Zoology Timothy A. Lyerla, Ph.D., Assistant Professor of Developmental Genetics

Nicholas S. Thompson, Ph.D., Associate Professor of Psychology, Adjunct Associate Professor of Biology* Richard A. Howard, Ph.D., Assistant Professor of Geography, Adjunct Assistant Professor of Biology Affiliated Staff

George Camougis, Ph.D., Professor of Physiology (Affiliate) Frederic S. Fay, Ph.D., Associate Professor of Physiology (Affiliate)

lan D. K. Halkerston, Ph.D., Professor of Endocrinology (Affiliate)

Warren Litsky, Ph.D., Professor of Microbiology (Affiliate) Fernand G. Peron, Ph.D., Professor of Biochemistry (Affiliate) Harris Rosenkrantz, Ph.D., Professor of Biochemistry (Affiliate)

*on leave, 1976-77

**on leave, Semester 2, 1976-77

UNDERGRADUATE PROGRAM

The Biology Department views as its primary roles for undergraduate education within the University: to train biologists in a preprofessional sense, for those individuals entering careers that use the biological sciences as their bases; to provide support for other programs in the University that require some exposure to biology for their fulfillment; and to integrate the paradigm of the biological sciences into a liberal arts curriculum. Its goals for its majors relate directly to the development of an independent or autonomous learner, particularly since this development is required for anyone who is to remain current with the ever increasing body of knowledge in this field. With respect to its undergraduate majors then, the department attempts:

- to provide an updated, coherent statement of the field a curriculum organized to reflect the inherent organization of the discipline.
- to familiarize the student with the process by which biological information is acquired by exposing particularly the interrelationships between experiment and theory.
- 3. to develop a critical facility in its students, an ability to judge quality work within this field.

The major in biology is suitable for those intending to apply for graduate studies in biology, medicine, dentistry, etc.

Courses in the major must be taken for the letter grades.

A departmental major must take eight courses in biology of which six must be courses more advanced than the introductory course. However, only two of the six courses may be in directed research, directed readings or a seminar course. The "introductory biology year course" will be prerequisite for all other courses in biology, but students must fulfill prescribed prerequisites for specific courses.

The biology major must take, in related fields, a year of general chemistry, a year of introductory physics, and at least one additional year course in chemistry, physics or geology including in each case the laboratory for a total of six semester or three year courses. Additionally, the major in biology must take a full year of calculus (Mathematics 12 or 15). None of the aforementioned courses may be taken on a "Pass-No Record" option.

At least nine courses of a major's program must be taken from courses outside the field of biology, chemistry, geology, mathematics, physics and must not include any of the courses specified in the preceding paragraphs.

The department is currently reviewing its major requirements and this process will be completed by the fall of 1976. Therefore, we urge that all potential majors select and consult with an advisor for obtaining the maximum benefits which the department has to offer.

HONORS PROGRAM

An Honors Program is available to especially well-qualified majors and requires the student to engage in an independent research project during the senior year together with meeting other departmental requirements, i.e., a broad distribution of courses, quality grades, and an honors thesis and examination. Frequently, the Honors Project is the continuation of research

during the summer.

Specific criteria for admission and conduction of the Honors Program are available in the Departmental office.

GRADUATE PROGRAM

The department offers courses leading to Master of Arts and Doctor of Philosophy degrees in specialized phases of bacteriology, biochemistry, botany, cytology, embryology, genetics, marine biology, physiology and zoology. Admission to the graduate program assumes adequate preparation in the basic sciences, an overall undergraduate record of B or better and satisfactory standing in the Graduate Record Examination. Tuition scholarships and teaching assistantships are available. Detailed information can be obtained from the department chairman.

MASTER OF ARTS

The program usually requires three or four semesters of academic work and includes teaching experience and research culminating in an acceptable thesis.

DOCTOR OF PHILOSOPHY

The requirements are identical with those of the University and can be found in the catalog section on The Graduate School and includes teaching experience. The student's program is planned according to his needs with his program director.

COURSES

101. PALEO-ZOOLOGY

An interdepartmental course in geology and biology combining a systematic survey of the morphology, taxonomy and geologic history of groups of animals commonly found as fossils with their evolution to present-day forms. Three lectures and one laboratory period each week including field trips. Mr. Nunnemacher. Full course, Semester 2.

105. BIOLOGY AND MAN.

An introductory course intended for those who do not plan to major in biology. The course surveys the animal kingdom and emphasizes the relationships of various animals to man. Man is considered the example of an animal's solution to problems of metabolism, irritability and reproduction. As far as possible, man's relation to current biological problems of ecology, etc. will be discussed.

Full course, Semester 1.

Mr. Nunnemacher.

106. BOTANY OF THE MAINE COAST.

A field course in basic botany and the identification of marine and fresh-water algae, fungi, lichens and flowering plants. Mr. Ahmadjian, Mr. Johansen. Full course, Modular Term.

107. MARINE ECOLOGY OF BERMUDA.

A ten-day field study at the Bermuda Biological Station. Non-credit, Modular Term. Mr. Nunnemacher.

108. INTRODUCTION TO BIOLOGY.

Biology 108 is a full year course offered for those students who intend to major in Biology and/or take additional courses in the life sciences. The course is intended to prepare students who wish to broaden and deepen the concepts and skills acquired in secondary school for the more specialized advanced courses offered by the department. One half of the students enrolling in the course in September will be assigned to lecture/laboratory/discussion groups (108.1) taught by Mr. Reynolds over Semester 1. In January, those students will be assigned to two seminar courses (selected from 108.6-.9) for the two halves of Semester 2. The other half of the students enrolled in September will be assigned to two seminar courses (selected from 108.2-.5) for the two halves of Semester 1. This second group also will be assigned to lecture-laboratory/discussion groups (108.1) taught by Mr. Ahmadjian over Semester 2.

The program units for the coming year are as follows:

Semester 1.

108.1

Lecture/laboratory/discussion groups - Reynolds (Offered in Semester 1, limited to 100 students in lectures and to 20 students in laboratory / discussion sections).

108.2-.5

Introductory Seminar in Biology (all four offered twice, each in both the first and second halves of Semester 1, limited to 20 students in each class).

Symbiosis - Ahmadjian

.3 -

Historical Development of Nucleic Acid Function - Curtis

.4-

Biology of Aquatic Plants - Johansen

.5 -

Marine Biology - Johnson

Semester 2

108.1

Lecture/laboratory/discussion groups - Ahmadjian (Offered Semester 2, limited to 100 students in lectures and to 20 students in laboratory / discussion sections).

108.6-.9

Introductory Seminar in Biology (all four offered twice in Semester 2, limited to 20 students in each class).

.6 Human Genetics and Societal Problems - Lyerla

.7 -

Island Biology - Nunnemacher .8-

Cardiovascular Physiology - Sherman

Brain Biochemistry & Behavior - Brink

1 full course and 2 half

courses through the year.

Staff.

109. MICROBIOLOGY.

A survey of the protists (with emphasis on the bacteria), their activities and the methods by which they are studied. Three lectures and three hours of laboratory work per week (limited to 40 students).

Full course, Semester 2.

Mr. Reynolds.

110. BOTANY.

Not offered, 1976-77.

A survey of the taxonomy, structure and physiology of plants. Three lectures and one laboratory period per week. Full course. Mr. Johansen.

112. COMPARATIVE ANATOMY.

A comparative study of the morphology of the vertebrates with emphasis on the evolution of animals from fish to man. Prerequisite: 108. Two lectures and two laboratory periods per week.

Full course, Semester 1.

Mr. Nunnemacher.

113. ALGAE AND FUNGI.

Representative examples of the major groups of algae and fungi are studied with emphasis on their structure, interrelationships and adaptation to their environment. Prerequisite: a course in botany or consent of instructor. Two two-hour lecture-laboratory periods per week. Full course, Semester 2. Mr. Johansen.

114. AQUATIC BOTANY.

Not offered, 1976-77.

A study of the algae, fungi and higher plants that inhabit fresh

waters and the oceans. Emphasis is on ecological aspects and plant identification. A field and laboratory course.

Full course, Modular Term.

Mr. Johansen.

115. FLOWERING PLANTS.

An introduction to the classification, evolution, ecology and economic importance of flowering plants, with emphasis on the New England flora. Ferns, fern-allies and gymnosperms will also be included. Short field trips will be made to nearby areas for examination of the spring flora. A collection of plants will be encouraged but not required. Two two-hour lecture-laboratory periods per week.

Full course, Semester 2.

Mr. Ahmadjian.

116. PLANTS AND MAN.

Not offered, 1976-77.

A course exploring the plants and plant products that have helped shape the development of man. Included will be cereal crops, forests and forest products, beneficial and harmful fungi, selective breeding of useful plants, historical aspects of agriculture, useful and destructive aquatic plants, noncereal food plants, drugs and medicinal plants, and future food supplies. Not for Biology major credit.

Full course, Semester 2.

Mr. Johansen.

117, PRINCIPLES OF ECOLOGY.

A course in basic ecological theory governing organismenvironment interrelationships. Population dynamics, energy flow, zoo-geography, community ecology, as well as ecological methods and environmental problems will be included. Three lectures per week.

Full course, Semester 1.

Mr. Johnson.

118. GENETICS.

Principles and problems of genetics.

Full course, Semester 1. Repeated Semester 2.

Ms. Comer.

Mr. Lyerla.

119. EXPERIMENTAL GENETICS.

One laboratory period per week.

Full course, Semester 2.

Ms. Comer.

120. HISTOLOGY.

The microscopic anatomy of tissues and organs of mammals. Prerequisite: 112. Two lectures and two laboratory periods per week.

Full course, Semester 2.

Mr. Nunnemacher.

137. CELLULAR BIOLOGY.

The cell as a structural and functional unit. Introduction to the physiochemical properties and metabolic roles of molecules and macromolecules of cellular origin. Discussion of the roles of the nucleus and cytoplasm in the regulation of cellular processes. Three lectures per week. Prerequisite: Biology 108 or consent of instructor.

Full course, Semester 1.

Mr. Curtis.

170. HUMAN NUTRITION. Not offered, 1976-77.

The basic components of food will be considered with respect to their biological function of maintaining human growth and vitality. The role of food additives and cultural variations in diet will be discussed. For non-science majors.

Full course, Modular Term.

Mr. Brink.

182. PRIMATE SOCIAL BEHAVIOR. Not offered, 1976-77.

The study of the social behavior of monkeys and apes highlights central problems in psychological, zoological and anthropological approaches to behavior. It also has important implications for the past evolution and present nature of man's sociality. See also Psychology 141.

Full course.

Mr. Thompson.

183. PRINCIPLES OF BEHAVIORAL EVOLUTION.

Not offered 1976-77.

From a broad survey of the social systems of animals, this course will attempt to distill the general principles that have directed the evolution of animal behavior. See also Psychology 246.

Full course.

Mr. Thompson.

212. SEMINAR IN PLANT ECOLOGY. Not offered, 1976-77.

Interactions between plants and their physical and biological environments. Prerequisite: 110 or 117 or consent of instructor. Full course, Semester 2. Mr. Johansen.

213. PLANT PHYSIOLOGY.

Not offered, 1976-77,

An introduction to the function and chemistry of plants. Three lectures, one laboratory period per week. Prerequisite: one course in botany and one in chemistry.

Full course.

Mr. Brink, Mr. Johansen.

214. SEMINAR IN PHYCOLOGY.

Selected topics dealing with algae from the structural, physiological or ecological points of view. Prerequisite: 110 and 113 or consent of instructor.

Full course, Semester 2.

Mr. Johansen.

215. INVERTEBRATE ZOOLOGY. Not offered, 1976-77. A detailed survey on the diversity of invertebrates. Anatomical and histological examination of selected types, concepts of evolution and speciation. Prerequisite: two semesters of biology or consent of instructor. Two lectures and two laboratory periods per week.

Full course.

Mr. Johnson.

216. FIELD ECOLOGY.

An introduction to ecological methods involving studies of both aquatic and terrestrial habitats. Prerequisite: Biology 117 or permission. Two lectures and two laboratories per week. Full course, Semester 1. Mr. Johnson.

217. MARINE BIOLOGY.

An introduction to the marine ecosystem in relation to physical, chemical, geological and biological factors. Two lectures per week. Prerequisite: Biology 117 and consent of instructor. Full course, Semester 2. Mr. Johnson.

219. LABORATORY IN ETHOLOGY. Not offered, 1976-77.

An introduction to observational techniques and the study of human and animal subjects. Consent of the instructor.

Full course.

Mr. Thompson.

221. EMBRYOLOGY.

Consideration of the fundamentals of vertebrate embryology.
Three lectures and one laboratory period per week. Prerequisite:
Biology 112 or consent of instructor.
Full course, Semester 1.

Mr. Lyerla.

224. NEUROANATOMY. Not offered, 1976-77.

The structural and functional organization of the central nervous system of man. Prerequisite: Biology 112 or consent of instructor. Three lectures per week.

Full course, Semester 2.

Mr. Nunnemacher.

225. ELECTRON MICROSCOPY.

Introduction to the principles of electron optics, use of the electron microscope, preparation of specimens and the techniques of electron microscopy applicable to biological investigations. Two lectures and two laboratory periods per week. Prerequisite: permission of the instructor.

Full course, Semester 1. Mr. Curtis.

228. ADVANCED TOPICS IN GENETICS.

Full course. Staff.

229. EVOLUTIONARY BIOLOGY.

A review of the neo-Darwinian synthesis of evolution and genetics. Topics will include population genetics, speciation, polymorphism, inbreeding and molecular evolution.

Prerequisites: Genetics, Ecology or Bio-Geography.

Full course, Semester 1.

Mr. Lyerla.

230. BIOLOGY: THE STATE OF THE ART.

A seminar for seniors and beginning graduate students who are interested in assessing the progress that has been made in approaching the outstanding questions in the biological sciences. Permission of instructor required. Two 75-minute meetings per week.

Full course, Semester 1.

Mr. Reynolds.

232. SELECTED TOPICS IN BACTERIOLOGY.

A seminar for advanced undergraduates and beginning graduate students. Prerequisite: Biology 108 and consent of instructor. Two 75-minute meetings per week.

Full course, Semester 1.

Mr. Reynolds.

235. SEMINAR IN CELLULAR BIOLOGY. Not offered, 1976-77.

Prerequisite: Biology 137 or consent of instructor. Full course. Mr. Curtis.

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

An attempt to deal with those problems associated with water pollution that are amenable to solution through the application of concepts and approaches of the biological sciences. The participants do not have to be biology majors, but will be expected to be literate in one or more of the scientific disciplines. Permission of instructor required. Two 75-minute meetings per week. See also Science, Technology and Society 239.

Full course, Semester 2.

Mr. Reynolds.

240. GENERAL ANIMAL PHYSIOLOGY.

Introduction to the principles underlying physiological functions common to living organisms. The course covers the subcellular, cellular and organ levels of organization and places a primary emphasis on mammals. Prerequisites: Introduction to Biology and Introductory Chemistry. Three lectures and one laboratory per week.

Full course, Semester 1.

Mr. Sherman.

242. COMPARATIVE ANIMAL PHYSIOLOGY.

Not offered, 1976-77.

Full course.

Mr. Sherman.

247. SEMINAR IN NEUROPHYSIOLOGY.

A seminar on the principles of transmission, integration and storage of information in neuronal pathways and other considerations of the nervous system and muscles.

Prerequisite: a course in neurophysiology or its equivalent or consent of the instructor.

Full course, Semester 1.

Mr. Sherman.

249. PRINCIPLES OF NEUROPHYSIOLOGY.

Physiology of central and peripheral nervous systems, receptors and muscles, considered in both vertebrates and invertebrates. Three lectures and one laboratory period per week. Prerequisite: Biology 240 or consent of the instructor.

Full course, Semester 2.

Mr. Sherman.

250. PRINCIPLES OF APPLIED IMMUNOLOGY.

Not offered, 1976-77.

An introduction to the basic principles, problems and theories concerning the immunological behavior of man and the animal kingdom, familiarizing the student with the experimental evidence upon which are based the present concepts of immune mechanisms. The course is oriented to demonstrate the basic methods of experimental immunology and the application of such methods to biological problems.

Full course.

Staff.

260. DIRECTED RESEARCH.

Advanced semi-independent study of an approved topic under the direction of a departmental member. Consent of instructor required. Required for honors in biology. Variable credit.

Semesters 1, 2, Modular Term.

Staff.

261. DIRECTED READINGS.

Advanced readings on an approved topic under the direction of a departmental member. Consent of the instructor required. Variable credit.

Semesters 1, 2, Modular Term.

Staff.

262. HONORS IN BIOLOGY.

Staff.

268. PRINCIPLES OF PHARMACOLOGY.

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. See also Chemistry 268.
Full course, Semester 1.

Mr. Brink, Mr. Nelson.

270. BIOCHEMISTRY.

The principles of mechanisms of biochemical reactions in an understanding of the metabolism of foodstuffs and the role of enzymes, nucleic acids and hormones. An acquaintance with the instrumentation in biochemical research will be presented. Prerequisite: Chemistry 130. Three lectures, one laboratory per week, through the year.

Full course, Semester 1.

Full course, Semester 2. Mr. Brink.

271. BIOCHEMISTRY OF NUCLEIC ACIDS.

Not offered, 1976-77.

The chemical and physical properties of RNA and DNA derived from various sources will be considered with respect to their isolation, separation and characteristics. The functional role and biological significance of the nucleic acids in subcellular organelles will be examined. Prerequisite: Biology 270 or consent of instructor.

Full course.

Mr. Brink.

273. NEUROCHEMISTRY.

The metabolic aspects of brain amines and biopolymers will be considered in relation to neural function. Effects of drugs on memory processes will be discussed in terms of biochemical mechanisms. Prerequisite: Biochemistry (270.) or consent of instructor.

Full course, Semester 2.

Mr. Brink.

280. THE HISTORY AND PRESENT STATUS OF INSTINCT. Not offered, 1976-77.

It has long been argued and long contested that man and animal alike are guided in their social behavior by innate tendencies.

This offering will emphasize the devious and irrational course of progress in a scientific field of study so loaded with social and philosophic implications. Permission of instructor required. See also Psychology 260.

Full course.

Mr. Thompson.

291. QUANTITATIVE METHODS FOR BIOLOGY.

Not offered, 1976-77.

Elements of statistical methods will be stressed. These will include hypothesis testing, design and sampling. Also a brief introduction to computer programming and model-building techniques will be included.

Full course.

Mr. Howard.

300. READINGS AND RESEARCH IN BIOLOGY.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

310. SCIENTIFIC WRITING FOR GRADUATE STUDENTS.

An introduction to the techniques of writing scientific papers. The principal assignment will be the writing of a journal article and a detailed analysis of the steps involved. Related areas which will be covered include searching the scientific literature, handling of quantitative data relevant to biological systems and oral presentation of a scientific paper. Prerequisite: permission of the instructor.

Full course, Semester 1.

Mr. Ahmadjian.

317. MICROCLIMATOLOGY AND BIOMETEOROLOGY.

Not offered, 1976-77.

An introduction to the quantitative analysis of organismenvironment interactions.

Full course.

Mr. Johnson.

325. SEMINAR IN ULTRASTRUCTURE. Not offered, 1976-77.

Discussion of the structure of macromolecules and subcellular organelles in relation to their biological functions. Evidence obtained by a variety of physical and chemical methods will be considered, particular emphasis being placed on electron microscopic studies. Consent of instructor required.

Full course.

Mr. Curtis.

332. SEMINAR IN BACTERIOLOGY.

Selected topics in bacterial ecology and applied bacteriology. Consent of instructor required.

Full course, Semester 1.

Mr. Reynolds.

334. SEMINAR IN BEHAVIOR AND EVOLUTION.

Not offered, 1976-77.

A consideration of contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. See also Psychology 334.

Full course.

Mr. Thompson.

335. SEMINAR IN ENVIRONMENTAL SYSTEMS.

Not offered, 1976-77.

Systems analysis and models related to environmental management. Programming experience required. Full course. Mr. Howard.

341. SEMINAR IN ENDOCRINOLOGY.

Full course, Semester 1. Mr. Curtis.

347. CENTRAL NERVOUS SYSTEM. Not offered, 1976-77.

The functional organization and physiology of selected neural networks in the central nervous system of certain vertebrate and invertebrate animals. Neuronal systems will include the cerebellum, cerebral cortex and spinal cord of mammals and the central ganglia of molluscs and arthropods. In these

discussions, the role of command fibers and central oscillators in initiating stereotyped behaviors and biological rhythms in lower animals will be examined.

Full course. Mr. Sherman.

350. GRADUATE SEMINAR.

Full course.

Semesters 1, 2, Modular Term. Staff.

360. MASTER'S THESIS.

Variable credit.

Semesters 1, 2, Modular Term. Staff.

390. DOCTORAL DISSERTATION.

Variable credit.

Semesters 1, 2, Modular Term. Staff.

Chemistry

DEPARTMENT FACULTY

Harry C. Allen, Jr., Ph.D., Professor of Chemistry, Department

Edward N. Trachtenberg, Ph.D., Professor of Chemistry Wen-Yang Wen, Ph.D., Professor of Chemistry.
Daeg S. Brenner, Ph.D., Associate Professor of Chemistry Karen L. Erickson, Ph.D., Associate Professor of Chemistry Alan A. Jones, Ph.D., Assistant Professor of Chemistry Donald J. Nelson, Ph.D., Assistant Professor of Chemistry Albert M. Gottlieb, Ph.D., Assistant Professor of Physics.

Affiliated Staff

Marcel Gut, Ph.D., Professor of Chemistry (Affiliate) Elias Meymaris, Ph.D., Assistant Professor of Chemistry (Affiliate)

Adjunct Assistant Professor of Chemistry

UNDERGRADUATE PROGRAM

The Chemistry Department offers a series of programs with the following goals in mind.

- Make it possible for the chemistry major to complete his major requirements in three years without lowering academic standards.
- Offer a variety of first-year chemistry courses so that a student may enter a chemistry program at a number of levels.
- 3) Increase the number of offerings available to students not majoring in chemistry or the sciences.
- 4) Offer a range of chemistry courses with an emphasis in environmental and health related fields.
- 5) Offer a program for chemistry majors which will prepare students for environmental and health related careers.

The requirements for the chemistry major are two courses in mathematics beyond Mathematics 11, two courses in physics (Physics 12 and 19) and eight courses in chemistry and related fields beyond Chemistry 12, 100b or 102b. These courses must

include:		Course
Course	Number	Credit
Organic Chemistry	130 or 132	2
Inorganic Chemistry	150	1
Physical Chemistry I	160	1
Physical Chemistry II or	162	
Biophysical Chemistry	164	1
Analytical Chemistry or	140	
Environmental Chemistry	142	1
		Total 6

The remaining two-course requirement may be met either by advanced chemistry courses or, with the permission of the Chemistry Department, by appropriate courses in mathematics, physics, and biology.

Students wishing to be accredited by the American Chemical Society should consult the department chairman with regard to specific course requirements.

Students planning graduate study in chemistry are urged to take Chemistry 135, 200, 230, and/or advanced mathematics, physics, and biochemistry courses, depending on the area of interest. A reading knowledge of German, French, or Russian is also recommended. All chemistry majors are encouraged to undertake independent research projects either as a candidate for honors (Chemistry 215) or in a special projects course (Chemistry 214) and may do so after completing Chemistry 160.

A student may elect as his/her first course in Chemistry — Chemistry 10, 12, 100, 102, 130, or 132. The decision to start with Chemistry 12, 130, or 132 (all accelerating options) must be made in consultation with the department and may require taking a placement examination offered at the beginning of the academic year.

GRADUATE PROGRAM

The department offers programs leading to the degrees of Master of Arts and Doctor of Philosophy with specialization in various fields of chemistry and in chemical physics. Emphasis is placed on tailoring programs to fit the specific needs and desires of the graduate student. To facilitate this goal, a committee of interested faculty works with each student to advise and review his/her progress in research work and, together with the student, defines the formal course work requirements. In the case of master's degree candidates, the requirements are essentially those of the University as stated elsewhere in the catalog. Up to one year's equivalent of teaching apprenticeship will be required of all candidates for advanced degrees.

In addition to formal course work, the student must pass qualifying and preliminary examinations, and the department language requirement must be met. For further details, students should consult the appropriate departmental publications.

Graduate scholarships, teaching assistantships, and research fellowships are available. Further information on these awards may be obtained from the department chairman.

COURSES

10. CHEMISTRY FOR THE CONCERNED CITIZEN.

This one-semester, relatively non-mathematical course is designed for incoming students and is intended to develop a qualitative feeling about chemistry as it relates to the modern world. Approximately half of the course is concerned with the development of modern chemical thought, while the remainder deals with current societal problems such as nuclear weapons and reactors, air and water quality, drugs, food additives, polymers, poisons, and others. Laboratory experiments using simple chemical techniques familiarize students with testing procedures for environmental, food and other samples of interest. Students are encouraged to analyze samples of their own choosing in the laboratory. Although the course is not designed for science majors, students can, without loss of time, enter Chemistry 12 or Chemistry 132a (with the extra recitation). Three lectures and one three-hour laboratory per week. Full course, Semester 1. Mr. Brenner.

12. FUNDAMENTALS OF CHEMISTRY.

This mathematical course on the major principles of chemistry, which is at the same level of sophistication as Chemistry 100 or 102, is designed to accelerate students whose high school background in chemistry and mathematics is sufficiently good so that they do not require a full year of General Chemistry in order to qualify for Organic Chemistry. Three lectures and one four-hour laboratory per week.

Full course, Semester 1.

Mr. Brenner.

100. INTRODUCTORY CHEMISTRY.

This systematic study of the elements and their principal compounds and of the fundamental laws and theories of chemistry is designed as an introduction to the field of chemistry. A knowledge of high school algebra is necessary; high school chemistry and physics, though helpful, are not required. This course is designed to meet the needs of chemistry majors, students interested in biology, physics, medicine, and dentistry as well as those seeking a knowledge of chemistry as part of their liberal arts education. Three lectures, one recitation and one four-hour laboratory per week. Two lecture sections with enrollment in each limited to 65.

Full course. Mr. Nelson. Semesters 1, 2. Mr. Trachtenberg.

102. INTRODUCTORY CHEMISTRY.

This course is identical to Chemistry 100 except that it will meet for three lectures, one recitation and one four-hour laboratory per week during Semester 2 and for six lectures, two recitations and two four-hour laboratories per week during Modular Term. Enrollment limited to 65.

Full course, Semester 2, Modular Term. Mr. Brenner.

130. ORGANIC CHEMISTRY.

The lectures emphasize the synthesis and reactions of organic compounds, structure determination, and reaction mechanisms. The laboratory concentrates on the preparation and physical, spectral, and chemical properties of important classes of organic compounds. Prerequisite: Chemistry 12 or 100 or 102 or advanced placement. Three lectures and one four-hour laboratory per week.

Full course, Semesters 1, 2. Ms. Erickson.

132. ORGANIC CHEMISTRY.

This course is identical to Chemistry 130 except that it is also open to students who either almost qualify for advanced placement on the basis of examination or who have completed Chemistry 10. Students in these categories must attend an additional recitation each week during which topics in general chemistry will be reviewed; other students may also attend these recitations if they wish. Three lectures and one four-hour laboratory per week during Semester 2 and six lectures and two four-hour laboratories per week during Modular Term.

Full course, Semesters 1, 2, Modular Term. Mr. Trachtenberg.

135. QUALITATIVE ORGANIC ANALYSIS.

This laboratory study of the identification of organic compounds utilizes both classical and modern instrumental techniques.

Prerequisite: Chemistry 130 or 132 or consent of the instructor.

One hour conference and seven hours of laboratory per week.

Full course, Semester 1.

Ms. Erickson.

140. ANALYTICAL CHEMISTRY.

This course covers both the theoretical principles and technical methods employed in determining the qualitative and quantitative composition of matter. Laboratory options are offered for those students whose primary interest is in molecules of a clinical or biological nature as well as for those students whose primary interest is in more classical chemistry itself. Preor corequisite: Chemistry 162.

Full course, Semester 2.

Mr. Jones.

142. ENVIRONMENTAL CHEMISTRY.

This study focuses on the chemistry related to environmental problems such as air and water pollution from fossil fuels, pesticides, metals, food additives, and solid wastes. The laboratory primarily will make use of analytical techniques. Prerequisite: Chemistry 100. Two lectures and one laboratory per week.

Full course, Semester 1.

Mr. Jones.

150. INORGANIC CHEMISTRY.

Included in this descriptive chemistry course of the elements are such topics as acid-base theory and ligand field theory.

Prerequisite: Chemistry 12, 100, or 102 or equivalent. Two lectures and one four-hour laboratory per week.

Full course, Semester 2.

Mr. Allen.

160. PHYSICAL CHEMISTRY I.

The lectures cover principles of physical chemistry applied to gases, liquids, and solids; chemical thermodynamics; solution chemistry. The laboratory includes experiments in physical chemistry techniques of measurement and technical report writing. Prerequisite: Mathematics 12 and either Chemistry 12, 100, or 102. Chemistry 130 or 132 is suggested as a pre- or corequisite. Pre- or co-requisite: Physics 12 or a strong high school background in physics and enrollment in the recitation part of this course. Three lectures, one four-hour laboratory and one optional recitation per week.

Full course, Semester 1.

Mr. Wen.

162. PHYSICAL CHEMISTRY II.

The topics covered in this continued discussion of the principles of physical chemistry are electrode processes, chemical kinetics, and atomic and molecular spectroscopy. Prerequisite: Chemistry 160. Three lectures and one four-hour laboratory per week.

Full course, Semester 2.

Mr. Wen.

164. BIOPHYSICAL CHEMISTRY.

This rigorous course in physical chemistry, offered as an alternate to Chemistry 162, emphasizes the physical chemistry of biological systems: enzyme kinetics, spectroscopy of biological systems, macromolecules, transport processes, x-ray diffraction. Prerequisite: Chemistry 160. Three lectures and one four-hour laboratory per week.

Full course, Semester 2.

Mr. Nelson.

200. PHYSICAL CHEMISTRY III.

This is essentially an introduction to quantum mechanics and covers elementary quantum-mechanical treatment of the structure of atoms and molecules. Three lectures and one discussion per week. Prerequisites: Chemistry 160 and 162 or 164

Full course, Semester 1.

Mr. Allen.

210. PHYSICAL CHEMISTRY IV.

The course deals with the application of group theory to problems of chemical interest such as molecular vibrations, hybrid orbitals and molecular orbital theory. Three lectures and one discussion per week. Prerequisite: Chemistry 200 or equivalent.

Full course, Semester 2.

Mr. Allen.

214. SPECIAL PROJECTS.

Individual investigations involve laboratory and/or literature research.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

215. HONORS COURSE.

The honors course, primarily for majors seeking departmental honors in chemistry, involves a laboratory research project and participation in departmental seminars.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

220. POLYMER SCIENCE.

The physical chemistry of synthetic polymers will be presented including discussion of kinetic mechanisms of polymerization,

molecular weight distributions, unperturbed dimensions, structure and conformation, viscosity, and dynamic properties. Specific experimental methods useful in polymer chemistry such as osmotic pressure, light scattering, gel permeation chromatography, viscoelastic response, nuclear magnetic resonance, and dielectric response will also be reviewed. The text will be *Principles of Polymer Chemistry* by the 1974 Nobel Laureate, Paul J. Flory.

Half course, Modular Term.

Mr. Jones.

230. PHYSICAL ORGANIC CHEMISTRY.

This is a lecture course on the fundamentals of organic chemistry including molecular structure, acidity and basicity, kinetics, and mechanisms with emphasis on the most recent advances in organic chemical theory. Prerequisites: Chemistry 130 or 132, 160 or consent of the instructor.

Full course, Semester 1.

Mr. Trachtenberg.

242. NUCLEAR SCIENCE.

This course covers the fundamentals of nuclear chemistry and physics: production, isolation, identification, and measurement of radioactive atoms. Three lectures and three laboratory hours per week. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Brenner.

268. PRINCIPLES OF PHARMACOLOGY.

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. Prerequisite: Chemistry 132. Corequisite: Biology 270. See also Biology 268.

Full course, Semester 1.

Mr. Nelson, Mr. Brink.

280. INSTRUMENTAL METHODS.

This laboratory course covers the principles and application of modern instrumental techniques to the separation and analysis of mixtures and for the characterization of pure compounds. Two lectures and six laboratory hours per week. Prerequisite: consent of the instructor.

Half course, Modular Term.

Mr. Brenner.

300. RESEARCH.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

312. INORGANIC CHEMISTRY.

This is an advanced treatment of theoretical and descriptive inorganic chemistry. Prerequisite: consent of the instructor. Full course.

Mr. Allen.

322. THERMODYNAMICS.

This lecture course discusses applications of classical thermodynamics to chemical systems.

Full course. Mr. Wen.

323. STATISTICAL MECHANICS.

This lecture course treats statistical mechanics as a bridge between molecular properties and thermodynamic functions; with applications to chemical systems. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Wen.

333. SYNTHETIC ORGANIC CHEMISTRY.

Not offered, 1976-77.

These lectures on synthesis of organic molecules emphasize scope and limitations of general methods, mechanism and

stereochemistry, synthesis of carbon to carbon bonds, oxidation, and reduction. Prerequisite: Chemistry 230, or consent of the instructor. Offered in alternate years. Full course.

Ms. Erickson.

335. NATURAL PRODUCTS.

The chemistry of selected naturally occurring compounds. Includes structure determination, synthesis, mechanistic interpretation of exotic transformations, and biogenetic theory. Prerequisite: consent of the instructor. Offered in alternate years.

Full course.

Ms. Erickson.

340. QUANTUM CHEMISTRY.

This course in elementary quantum mechanics covers simple systems, properties of wave functions, and approximation methods for complex systems.

Full course.

Mr. Allen.

341. ADVANCED QUANTUM CHEMISTRY.

This is a more sophisticated continuation of quantum chemistry: approximation methods, atomic states, spectroscopy, and molecular methods. Prerequisite: Chemistry 340 or consent of the instructor.

Full course.

Mr. Allen.

344. SELECTED TOPICS IN ADVANCED NUCLEAR CHEMISTRY.

This is a discussion of the current experimental and theoretical literature in nuclear reactions, fission, and nuclear spectroscopy. Prerequisite: Chemistry 242 or its equivalent. Full course.

Mr. Brenner.

350. SEMINAR.

This seminar consists of reports on research work and discussions of recently published work.

No credit. Guest Lecturers, Staff, and Graduate Students.

360. COORDINATION COMPOUNDS.

This advanced course in inorganic chemistry treats chemical and physical properties of complexes: theories of coordination, stereoisomerism, reaction mechanisms, and solution stabilities. Offered in alternate years.

Full course, Semester 1.

Mr. Allen.

361. MOLECULAR STRUCTURE.

This is a lecture course on physical methods relevant to the determination of the structure of molecules (x-ray, electron diffraction, magnetic resonance, electronic properties, etc.). Prerequisite: consent of the instructor. Offered in alternate years.

Full course, Semester 2.

Mr. Jones.

369. ELECTRONIC SPECTROSCOPY.

This is an introduction to the study of ultraviolet and visible absorption spectra as well as emission spectra. Prerequisite: consent of the instructor. Offered in alternate years. Full course.

Mr. Wen.

379. SPECIAL TOPICS.

This seminar course consists of research and literature; reports by graduate students.

Staff.

Full course.

380. RESEARCH CONFERENCE.

This conference consists of informal reports of research work being done in the laboratory.

No credit. Staff, Graduate Students.

Classics

PARTICIPATING FACULTY

Paul F. Burke, Ph.D., Assistant Professor of Classics

The following courses in Classical Humanities are taught in English and are recommended to students as part of their general education and to majors in Comparative Literature, English, Foreign Languages and Literatures, Fine Arts, History, Music, and Philosophy. Courses in Greek and Latin on all levels may be taken at College of the Holy Cross through the Consortium.

COURSES

Classics 120. INTRODUCTION TO CLASSICAL CIVILIZATION.

A survey of ancient Greek and Roman culture and history covering: the Bronze Age civilizations of Crete and Mycenae; the Classical Greek city-states; the conquests of Alexander; the Roman Republic and Empire; the end of the ancient world and the beginnings of Christian Europe. Readings in the works of ancient authors in translation will be chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archaeology, will be illustrated by slides. Full course, Semester 1.

Classics 124. GREEK AND ROMAN MYTHOLOGY.

A study of ancient Near Eastern, Greek, and Roman literary texts (along with some modern ones) which are particularly useful for gaining an understanding of the function of myth in Greco-Roman antiquity as a vehicle for artistic communication and social commentary. The archaeological and anthropological background of the ancient world will be sketched in and the religious and philosophical implications of myth will be discussed. The course will pay particular attention to the influence of ancient mythology on later European culture, especially literature and art. Various modern approaches to myth analysis will be touched upon: structural, psychoanalytical, literary. Many of the lectures will be illustrated by slides. Full course, Semester 1.

Classics 135. GREEK AND ROMAN DRAMA.

A literary survey of ancient drama conducted through the reading of plays by Aeschylus, Sophocles, Euripedes, Aristophanes, Plautus, Terence, and Seneca. Topics to be considered will include: the origins of drama in religion and myth, the evolution of tragedy and comedy, poetic and dramatic structure, character portrayal and staging, the purpose and place of drama in ancient society.

Classics 140. ANCIENT EPIC.

Full course, Semester 2.

A survey of the epic as a literary form which will treat: the nature of oral poetry and literary epic, the changing nature of the hero, the place of myth in epic, techniques of composition and literary style, epic in relation to other literary forms, characterization, narrative technique, and the place of epic in its social context. Readings in translation will include *Gilgamesh*, Homer's *Iliad* and *Odyssey*, Apollonius of Rhodes' *Argonautica*, Virgil's *Aeneid*. Reference will also be made to mock-epic or anti-epic, such as Ovid's *Metamorphoses* and Petronius' *Satyricon*, and to some later works such as *Beowulf* and the *Song of Roland*.

Full course, Semester 2.

Mr. Burke.

Mr. Burke.

Classics 150. NARRATIVE IN ANCIENT HISTORICAL WRITING.

A survey of ancient modes of writing and interpreting history. By reading selected works of ancient authors in translation, students will examine the influence of myth, propaganda, and rhetorical stereotyping on the portrayal of characters and events in ancient biographical and historical writing. Topics considered will include: narrative and stylistic technique, rhetoric, character portrayal, propaganda and reliability, the manipulation of events for artistic purposes, the effect of the author's intent on his work and the presence or intrusion of the author's personality. The course will require reading, in translation, selections from Herodotus' History, Thucydides' History of the War between Athens and Sparta, Plutarch's Lives, Josephus' History of the Jewish War, Caesar's Commentaries, Tacitus' Annals and Histories, and works by Christian writers of the later Roman Empire, Reference will also be made to Old and New Testament ideas of patterns and purpose in history and to poetic treatments of history by authors such as Homer and Virgil. Full course, Semester 2. Mr. Burke.

Comparative Literature

PARTICIPATING FACULTY

Raymond E. Barbera, Ph.D., Professor of Romance Languages. Program Chairman

Walter Schatzberg, Ph.D., Professor of German Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish Kenneth Hughes, Ph.D., Associate Professor of German Hartmut Kaiser, Ph.D., Associate Professor of German J. Fannin King, M.A., Associate Professor of Romance Languages

Michael K. Spingler, Ph.D., Associate Professor of French Paul F. Burke, Ph.D., Assistant Professor of Classics Dorothy K. McCall, Ph.D., Assistant Professor of French Irene Kriskijans, Ph.D., Lecturer in Russian

UNDERGRADUATE PROGRAM

The Major in Comparative Literature

The major in Comparative Literature is intended for the student inclined toward studies in the field of foreign literatures. but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program which in turn reflects the broadest possible frame in which to pursue his study of literature.

Requirements

- 1) No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases towards the fulfillment of the language course requirement.)
- 2) Suggested sequence of core courses in Comparative Literature:
 - a) ideally, the student should have taken Problems in Comparative Literature (C.L. 101) or Critical Approaches to Literature (C.L. 190) by the end of the sophomore year. although this recommendation does not preclude taking either at a later time.

b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (C.L. 230), Elements of Narrative (C.L.240) or English Poetry (English 13). Again, in certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the advisor.

c) While a student may wish to devote his senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar on Literary Theory and Practice (C.L. 251).

3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with his/her faculty advisor.

UNDERGRADUATE/GRADUATE PROGRAM

The three-year BA/MA Program in Comparative Literature is available to students who have completed the sophomore year, who have a good background in at least one foreign language (French, German, Spanish), and who have a demonstrated interest in literature and literary criticism.

In order to achieve the general objective of the program the highly literate student of literary criticism — and to permit a common ground for discussions in the Colloquium on Literary Problems, the following sequencing of required core courses is suggested when possible. Exceptions will be made where special situations prevent this sequencing

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1.	Critical Approaches	(1	unit
	Elements of Narrative		unit
3.	Problems in Drama		unit

4. Seminar in Literary

Theory and Practice (2 units)

Reading lists will be made available to all students upon their acceptance into the program. These lists will assure that students are exposed to the same sources and methodologies and make available a common vocabulary to enable participation in the discussions that form a regular and indispensable part of the process of critical awareness and investigation. The four core courses are integrated and designed to offer to students an exposure to critical ideas that will enable them to meet on common ground to actively consider the validity of ideas and methods. The three-year program beginning with the junior year is. in effect, an investigation of the nature of criticism as it applies to literary works. Fluency in that area, therefore, is the goal.

The Colloquium on Literary Problems

An indispensable part of the program is the Colloquium. It is in effect a forum where students and faculty meet one evening every two weeks to discuss problems ranging from modifications and evaluation of the program itself to discussion of critical problems in literary works. The Colloquium allows the students the opportunity to express their ideas and to test them in the presence of their peers. It is designed to allow a free discussion of ideas which, however, involves careful preparation. First-year students who have yet to take the core courses will find themselves among students who have completed their first and second years and also among those who are writing their theses. As a consequence, the Colloquium, besides soliciting discussion, serves as a learning-teaching experience with students progressing from the learning to that of the teaching experience.

Required Courses in Addition to Core Courses

It is basic to the philosophy of the program that each candidate become fluent in at least one foreign language. To this end, each candidate is to take six courses either in a foreign literature (German, French, Spanish) in the original language or, where students have a command of more than one foreign language, in a combination of the two if desired. Such expertise would preclude the parochialism of a monolinguist. It would

indeed by an anomaly that a comparatist should function on the basis of his native language alone. Students with a good language background are encouraged to learn more than one foreign language. A number of students presently enrolled in the program find themselves in this category.

Teaching Internship

A teaching internship will be available for qualified students in the final year. Interns will serve as instructors and discussion leaders in foreign language, foreign literature, and comparative literature courses and will be involved in the course in its entirety. The internship may also involve participating in the direction and production of a foreign language play.

The M.A. Thesis

The thesis is the culmination of the student's work in his/her critical and comparative studies of literature and related areas throughout the junior and senior years. Before the end of the senior year the student will present a thesis proposal to an advisory committee and to the Colloquium for discussion and development. Ideally an integrated program of studies from the beginning of the junior year will lead naturally to the selection and execution of a thesis topic during the final year by a student who will have developed his/her own area of interests and who will have acquired both sensitivity and critical awareness in the analysis of literary texts and problems.

Financial Aid

Some partial and full tuition remission scholarships will be available in the final year of the program. Several teaching assistantships will also be available to students involved in the teaching internship in their final year. All awards will be based upon merit and need.

COURSES

Comparative Literature 110. PROBLEMS IN COMPARATIVE LITERATURE.

An introductory course in comparative studies of literature from a problem-oriented perspective. The course will revolve around five major issues:

1) The Tragic View

- 2) The Challenge of Faith
- 3) Man the Measure
- 4) The Search for Identity
- 5) The Esthetics of Ambiguity

Readings will include selections from Sophocles, Job, Pico, Pascal, Pope, Nietzsche, Mann, Hofmannsthal, Rilke, Hesse, Kafka, Joyce, Bernanos, Beckett, and Cortazar. Recommended for freshmen and sophomores.

Full course, Semester 1.

Mr. Schatzberg.

Comparative Literature 118. LITERATURE AND THE NATURE OF MAN. Not offered, 1976-77.

Ideas held by outstanding literary artists of the Western World concerning the nature of man and his relation to the universe. The works are also to be studied as representative of the cultures of which they are products. The subject matter discussed includes Sophocles' Oedipus the King, The Book of Job, Dante's Divine Comedy, Shakespeare's King Lear, Milton's Paradise Lost, Moliere's Misanthrope, Goethe's Faust and selected poems of T.S. Eliot. All non-English works are read in translation. Admission subject to the consent of the instructor. Full course.

Comparative Literature 180. IRRATIONAL CURRENTS IN CONTEMPORARY THEATRE. Not offered, 1976-77.

A study of the preoccupation in modern theatre with "primitive" forms of dramatic expression such as ritual, myth, magic, nonverbal communication, theatre as a form of popular psychotherapy.

Full course.

Mr. Spingler.

Comparative Literature 185. READINGS IN MODERN FICTION. Not offered, 1976-77.

A study of modernism in fiction, with emphasis on the short story and novella. Works by continental, English, and American writers from the mid-nineteenth century to the present — Dostoevsky, Tolstoy, Conrad, Lawrence, Joyce, Faulkner, Mann, Sartre, and others.

Ms. McCall.

Comparative Literature 190. CRITICAL APPROACHES TO LITERATURE.

This course introduces students to a wide variety of critical approaches which have been taken toward literature. Although some Neo-Classical and Romantic criticism is discussed, the emphasis is on those postures characteristic of the twentieth century and which the student is most likely to encounter and to find fruitful for the development of his own critical responses: the psychological approaches of Freud and Jung, the historical and Marxist methodologies, existentialist interpretations, the "intrinsic" approach of the New Criticism, the perspectives of literary sociology and others.

Full course, Semester 1.

Full course.

Mr. Hughes.

Comparative Literature 210. THE LITERARY HERO. Not offered, 1976-77.

As early as 1499, in European literature, a harlot becomes the heroine of a major work. The intrusion of characters of less than heroic stature is an innovation that merits some study. Beginning with the *Celestina*, and followed by a number of works including *Lazarillo de Tormes* and *Moll Flanders*, an attempt will be made to trace the increasing importance of characters of "piccola nazione" in the literary work. Heroic qualities yield to their opposite. The questions and problems that arise as a result of such a displacement will be the subject of analysis and commentary.

Full course. Mr. Barbera.

Comparative Literature 215. MARXISM AND ART.

The course considers two sides of the relationship of Marxism to art: (1) how, as a philosophical foundation of political entities, Marxism affects the kinds of art produced under its sponsorship; and (2) the kinds of critical theories and strategies which, as an analytical tool, Marxism generates. The course presents a broad survey of Marxist considerations of art and literature. Among the topics discussed are: the alternation of cultural repression and "thaw," the historical development of art theory from Marx to the present, Stalinism and the distortion of the human image in Marx, the theory and practice of socialist realism, the critique of modernism and formalism, and the alienation of the artist in contemporary capitalist and socialist society. A basic acquaintance with both the classics of Marxist thought and the fundamentals of literary and art criticism is presupposed.

Mr. Hughes.

Comparative Literature 225. POLITICS AND THE NOVEL.

Full course, Semester 2.

A study of the relationships between private imagination and social consciousness; the structure of Idea in a novel; tensions of political and literary language; revolution as nostalgia, as heroic possibility, as dream and as nightmare. Readings will include Diderot, *Rameau's Nephew*; Stendhal, *The Red and the Black*; Dostoyevsky, *The Possessed*; Malraux, *Man's Fate*; Doris Lessing, *The Golden Notebook*; Robert Penn Warren, *All the King's Men.* Reference will be made throughout the semester to relevant historical and theoretical texts. Students will be expected to develop a research project on the subject of the course as it relates to their particular field of interest.

Full course, Semester 1.

Ms. McCall.

Comparative Literature 226. EROS AND FEMINISM.

A study of the meaning of Eros from an interdisciplinary perspective, exploring problems and creative possibilities in the tension between our need for union and our need for separateness. Emphasis will be on the feminist effort to transform traditional notions of love, sexuality, and the meaning of private life. The course is intended as a workshop for upperclass and graduate students. Each student will be expected to give an oral report in her or his particular discipline, to be developed into a research project. Students will also be asked to keep a journal, recording impressions of class discussion and reading in light of their own experience. Texts will include Plato. Symposium; Erich Neumann, Amor and Psyche; Women and Analysis (essays by Freud, Emma Jung, Horney, Mitchell, and others); Engels, Origins of the Family; Kate Chopin, The Awakening: D.H. Lawrence, Lady Chatterley's Lover; John Barth, Chimera; Isadora Duncan, My Life: Emma Goldman, Living My Life; feminist essays on love by Goldman. Beauvoir, Greer, Firestone, Helene Cixous. Prerequisite: consent of the instructor.

Full course, Semester 2.

Ms. McCall.

Comparative Literature 230. ELEMENTS OF DRAMA. Not offered, 1976-77.

An exploration of ways of approaching the dramatic text based on the conditions and problems peculiar to the stage. Through the study of representative plays from major dramatic periods, the course will investigate the nature of such concepts of dramatic analyses as Plot, Character, Dialogue, and Enactment as well as such elements of dramatic aesthetics as Tempo. Mode, Image and Sequence of Impressions. The particular nature of the points of view of playwright, director, actor, and spectator will be investigated. Full course.

Mr. Spingler.

Comparative Literature 235. PROBLEMS IN DRAMA: MYTH AND STRUCTURE.

A study of the ways in which myth is articulated through specific dramatic structures. The peculiar character assumed by myth when it is embodied in the theatre will be the subject of analysis and discussion. We will concentrate on myth not as familiar and ancient story but as the contemporary and commonly, if sometimes subconsciously, held beliefs of a culture. Plays for analysis will be chosen from the following: Aeschylus, The Eumenides, Euripedes, Hippolytus, O'Neill, Desire Under the Elms, Mourning becomes Electra, Shakespeare, King Lear. Ibsen, Ghosts, Lorca, Blood Wedding, Ghelderode, The Chronicles of Hell, Ionesco, Jack or the Submission. This course is part of the Integrated Program of Humanistic Studies. Full course, Semester 1. Mr. Spingler.

Comparative Literature 237. THE LANGUAGES OF THEATRE.

A study of the function of sign and symbol in the articulation of meanings in the theatre. Particular attention will be paid to the roles of non-verbal communication in theatrical presentation, especially mask, gesture, sound, rhythm, movement, Examples from Japanese Noh and Kabuki will be studied as modes of expression which may serve as alternatives to those most familiar to Western audiences. Plays and criticism will include Sophocles' Oedipus, Shakespeare's Tempest, and Richard II, Cocteau's The Eiffel Tower Wedding Party, and Orpheus, Jarry's UBU Roi, Artaud's The Theatre and its Double, Grotowski's Towards a Poor Theatre, Genêt's The Balcony, Pinter's The Homecoming. May be taken as a sequence to Comparative Literature 235.

Full course, Semester 2.

Mr. Spingler.

Comparative Literature 240. ELEMENTS OF NARRATIVE.

1977 theme: Fiction and Film. Exploration of the structural affinities between fiction and film. Comparison and cognates in the rhetoric of fiction and that of the film. Particular attention will be paid to the nature of film adaptation of narrative works as well as the impact of the cinema on 20th century narrative. Readings of selected novels, short stories, and film scripts, as well as a consideration of critical methodology as it enhances the understanding of narrative structure in both fiction and film. Full course, Semester 2. Mr. D'Lugo.

Comparative Literature 251. SEMINAR IN LITERARY THEORY AND PRACTICE.

This core course is required of candidates in the B.A./M.A. Comparative Literature Program and is open to majors in Comparative Literature with permission of the instructor. The course will attempt to answer some fundamental questions concerning the nature, meaning, and significance of literature. Literature as a body of material defies exact definitions or rules. The course will necessarily be tentative and exploratory and problems arising from disputed views through the centuries will be considered. A limited number of works will be studied as problematical texts. Indivisible.

Full course, Semester 1. Full course, Semester 2.

Mr. Barbera.

Comparative Literature 256. COLLOQUIUM ON PROBLEMS.

An ongoing colloquium designed to consider the formulation and resolution of problems in comparative literature. (Prerequisite: open to and required of students accepted into the Comparative Literature Program).

Staff.

Computer Science

The courses in the area of Computer Science listed below are available to Clark students. They involve the use of the Xerox 530 Computer System located on campus. Other computer science courses are available through the Worcester Consortium.

101. INTRODUCTION TO COMPUTER PROGRAMMING.

An introductory programming course designed for students with no mathematics beyond high school algebra. The emphasis of the course will be on using the computer and the FORTRAN IV programming language as a tool for solving problems in any discipline. Students develop a working knowledge of character representation and manipulation, number representation and arithmetic, subroutines and functions, arrays and indexing, compilers and loaders, and most of all structured programming techniques and algorithms that make programming easier. Full course, Semester 1. Ms. Goodman.

102. COMPUTER APPLICATIONS.

Advanced topics in computer use are covered including searching and sorting, file design, recursion, lists, stacks, and queues. Several projects requiring programming skill are assigned. Prerequisite: Computer Science 101 or consent of instructor.

Full course, Semester 2.

Ms. Goodman.

103. INTRODUCTION TO COBOL PROGRAMMING.

The concepts of Cobol, today's most widely used programming language for business applications, are introduced. The student is expected to complete a number of programming assignments during the course. Prerequisite: Computer Science 101 or consent of the instructor.

Full course, Semester 2.

Mr. Larson.

140. ASSEMBLER LANGUAGE PROGRAMMING.

Not offered, 1976-77.

This course is designed to enable the student to write substantive programs in assembler language for the Xerox 530. While a knowledge of a higher level language is not necessary, some familiarity with computer operations would be helpful. Otherwise, permission of the instructor is required. Full course.

201. ADVANCED COMPUTER PROGRAMMING.

This course is designed for students with previous programming experience. Each student is expected to select and carry to completion a project requiring substantive computer analysis in machine language, assembler, or any higher level language. Variable credit.

Semesters 1, 2.

Staff.

Mathematics 118. FORTRAN FOR SCIENCE STUDENTS.

Refer to course description under Mathematics. Mr. Stubbe.

Mathematics 119. ELEMENTARY NUMERICAL ANALYSIS.

Refer to course description under Mathematics. Mr. Stubbe.

Mathematics 120. LINEAR PROGRAMMING.

Refer to course description under Mathematics. Mr. Tepper.

Mathematics 135. PATTERN RECOGNITION.

Refer to course description under Mathematics. Mr. Stubbe.

Geography 212. COMPUTER PROGRAMMING.

Refer to course description under Geography. Mr. Howard.

Economics

DEPARTMENT FACULTY

Roger C. Van Tassel, Ph.D., Professor of Economics, Department Chairman Howard W. Nicholson, Ph.D., Professor of Economics

Attiat F. Ott, Ph.D., Professor of Economics E.C.H. Veendorp, Ph.D., Professor of Economics

George E. Hargest, M.B.A., Associate Professor of Economics, Emeritus

Robert C. Hsu, Ph.D., Associate Professor of Economics Frank W. Puffer, Ph.D., Associate Professor of Economics, Dean of Academic Affairs

Maurice D. Weinrobe, Ph.D., Associate Professor of Economics Don M. Shakow, Ph.D., Assistant Professor of Economics Jang H. Yoo, Ph.D., Assistant Professor of Economics (on leave) Peter Sloane, Ph.D., Associate Professor of Economics (Affiliate)

UNDERGRADUATE PROGRAM

The undergraduate program is designed to give the student a comprehensive grasp of the underlying principles and functions of economic institutions, and to develop habits of systematic thought.

Goals of the Major

The rationale for economics majors can be stated briefly and simply. We believe economics offers a useful insight into a better understanding of fundamental human behavior in the decision-making process and a great variety of national economic issues. While we recognize that economics alone seldom gives answers, we also feel that there are few issues, at least in the social sciences, where the contribution of fairly formal economic analysis does not play a necessary role. There are obviously some advantages in an economics major besides its more broadly accepted educational value. It is a good preparation for law, business, and a number of other professional and not so professional careers. However, the emphasis of our program, and its rationale, is the educational one. The major in economics is clearly devised to help the student think and develop. The student takes a sequence of courses that should develop an appreciation of both the strengths and limitations of the subject. Finally, a student "who gets it all" in his first course, has really accomplished much of this objective. For almost everyone, however, some repetition, reinvolvement, and greater experience in additional and more advanced courses is required to develop the necessary mixture of confidence and competence.

Economics 10, Issues and Perspectives, is prerequisite for all "100"-level courses and for Economics 11, Principles of Economics. Economics 11 is prerequisite for "200"-level courses in the department. All majors in economics must take Economics 10, Economics 11, and Economics 205.1 and 205.2, Intermediate Theory, Economics 160, Statistics, is strongly recommended for all majors and required for some tracks. Students in their last three years must take no less than 50% nor more than 80% of their work in economics and courses appropriate to extended majors.

Under the extended major, students may elect a variety of options. These options are built on the common core of analysis required of all majors and "extend" to include a coherent program of courses offered within the department and in related departments. Among the options are: pregraduate, business, political economy, development, prelaw, environmental affairs, and science, technology and society.

The department offers two separate honors programs. Selected students may engage in independent study off-campus for a semester and summer, preferably during the junior year. These students work for business firms or government agencies in applied economic research. A semester's credit is awarded. In addition there is an on-campus program. Juniors in their second semester take an honors course and, as seniors, may continue and complete the honors program with the writing of a senior thesis.

Some courses may be offered only in alternate years. Detailed course descriptions are available at the department office and at the Registrar's Office.

GRADUATE PROGRAM

The University offers facilities for graduate study and research leading to the Master of Arts and Doctor of Philosophy in Economics and with the cooperation of the Department of Management, to the Master of Arts in Applied Economics.

Graduate students may elect to take a limited amount of work in related courses offered by other departments.

Scholarships and fellowships are available for a limited number of well-prepared students. These appointments exempt their holders from tuition fees and some carry stipends in varying amounts. Several teaching assistantships are also awarded which enable graduate students to gain experience in undergraduate instruction. These carry remission of tuition and a cash payment, up to \$3,200 for part-time work (one-half).

MASTER OF ARTS PROGRAM

Students interested in the application of economics to

operational situations in business and government are encouraged to enroll in the M.A. program in applied economics. This program is built around a core of economic theory and econometrics plus a choice of applied business fields, actual onsite research — consulting experience and a thesis. With adequate prerequisites, full-time students can complete this program in one year.

Students enrolled in the Ph.D. program may be awarded the M.A. degree upon satisfactory completion of the three Ph.D. "special fields"; or, in the case of students who do not continue toward the Ph.D., upon satisfactory completion of an approved program of course work, the writing of an M.A. thesis and an oral examination.

A student should discuss his/her plans with the graduate student advisor on or before registration day and secure approval of his/her course program.

DOCTOR OF PHILOSOPHY PROGRAM

Two full academic years of graduate work, or its equivalent in part-time work, is necessary for admission to Ph.D candidacy. One of these years must be spent in residence at Clark University. In residence is broadly defined as work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

All candidates for the Ph.D. in economics are required to demonstrate proficiency in Econometrics and Mathematical Economics, i.e., by passing designated courses offered in the department or, in the case of prior preparation, by passing a test given by the department.

Each student in the Ph.D. program is required to demonstrate proficiency in Economic Theory. The Economic Theory requirement includes Micro-theory, Macro-theory, and the History of Doctrine. Use of mathematics may be required in the examination in Economic Theory. The student satisfies the Economic Theory requirement by passing course examinations usually at the end of the first year of graduate study.

Upon completion of Economics Theory and the three special fields, the student is admitted to candidacy for the Ph.D. These fields may be selected from among the following: Monetary Economics, Public Finance, Industrial Organization, International Trade, Comparative Economic Systems, Econometrics, Advanced Theory, or one field selected from related subjects. If Econometrics or Advanced Theory is selected as a special field, the level of performance required is substantially higher than the general requirement in Econometrics and Economic Theory for all Ph.D. candidates. The choice of fields must be cleared in advance with the graduate student advisor. Not all graduate field courses are offered each year. Normally three field courses are offered annually.

Soon after having completed the field requirements, each student is expected to develop a written prospectus of his/her dissertation, and then to make a presentation before an informal conference with the dissertation committee demonstrating both the extent of knowledge of his/her dissertation field and the feasibility of the proposed topic.

Upon completion of the dissertation in a form acceptable to the committee, the candidate will make a copy of the dissertation available to the department, the staff, and graduate students in the department. After a period of approximately two weeks, to permit a wider reading of the dissertation within the department, the candidate will present the dissertation at a seminar open to all staff and graduate students in the department. Final approval of the dissertation will be granted by the committee after consideration of any suggestions of changes or challenges arising from the final seminar. Unless the dissertation is completed and defended within five calendar years from admission to candidacy, the certifying examinations must be repassed.

The dissertation must be a real contribution to knowledge, based upon independent research, convincingly presented, and acceptably written. Published articles may be accepted by the

department instead of a dissertation.

Some teaching experience at Clark or such other teaching as the department may regard as equivalent is prerequisite to the doctor's degree.

COURSES

ALL ECONOMICS COURSES LISTED ARE FULL COURSES.

10. ISSUES AND PERSPECTIVES.

By analysis of important current policy issues, the student is introduced to the vital contribution economics can make to systematic thought and understanding. Rather than emphasizing economic theory, the course begins with issues in the social sciences that are of obvious and important concern. From a study of issues the course proceeds to show how development and use of some very basic economic concepts can aid materially in the analysis. Open to freshmen, Multiple sections. Mr. Van Tassel, Staff. Semesters 1, 2.

11. PRINCIPLES OF ECONOMICS.

An introduction to economic analysis. This course develops a basic set of economic concepts utilized in the "200"-level courses offered in the department. Basic elements of price and income theory are emphasized. Policy questions are treated both to reinforce concepts and to illustrate applicability of the analysis. Open to freshmen. Prerequisite: Economics 10. Semesters 1, 2, Staff.

108. INTERNATIONAL FINANCIAL DEVELOPMENTS.

This course traces the development, roles, importance, and problems in international finance. A multinational world requires an efficient international financial system. Yet, design of a system that permits orderly international trade and retains national identity and autonomy in vital areas of policy is a difficult and incomplete task. Semester 2. Mr. Van Tassel.

113. MONETARY ECONOMICS: THEORY AND POLICY.

The theory of money, its role in the modern economy. Determinants of the supply of money and analysis of the role of monetary policy in stabilization policy. Semester 2. Mr. Weinrobe.

115. PUBLIC EXPENDITURES.

Issues of priorities in the composition and size of public expenditures. Evaluation of the federal budget (expenditures and revenues) according to criteria of efficiency, equity, and administrability. Examination of goals of employment, price stability, and growth and role of fiscal policy instruments in achieving them. Semester 2. Ms. Ott.

121. INTRODUCTION TO ACCOUNTING PRINCIPLES.

A first course in financial accounting designed to meet academic needs of: (a) students who will take only one course in accounting to obtain a good understanding of financial information such as that which appears in standard financial reports. (b) students who will be interested in work in managerial accounting as well as financial accounting, (c) students who will continue the study of accounting in intermediate and advanced courses. For certain programs this course may be considered the equivalent of Management 205 — Introduction to Accounting, which is desirable but not a prerequisite for this course. Semester 1. Mr. Nicholson.

122. CORPORATE FINANCE AND INVESTMENT PRINCIPLES.

Introduction to Principles of Business Finance and Investment. The course begins with an analysis of the finance function in business and concludes with a study of investment principles

viewed from the standpoint of both the firm and the investing public. Topics covered in connection with the finance function include factors affecting need for funds and sources of funds. Study of investment principles focuses on appraisal of capital investment opportunities and the nature and functioning of capital markets such as the organized exchanges for stocks and bonds. Prerequisite: Economics 121 or consent of instructor. Semester 2.

Mr. Nicholson.

123.4 SPECIAL PROBLEMS: ENVIRONMENT AND ENERGY.

An analysis of major problems that have arisen as a result of environmental concerns and the energy shortage. Analysis will be placed on problems stemming from external diseconomies, supply demand disequalibria, and technological change. Semester 2.

Mr. Shakow.

124. ECONOMIC THOUGHT AND MODERN CIVILIZATION.

This new course is broadly interdisciplinary. It emphasizes the relationship between economics and related areas, such as philosophy, ethics, political science, sociology, mathematics, and statistics. Beginning from the perspective of economic thought, the course traces developments in economic analysis, showing how economic analysis has both affected and been affected by the contact with other disciplines. The course considers how modern economic thought has come to diverge in essential aspects from the ideas of social philosophers like Adam Smith and Karl Marx, and emphasizes what scientific economic analysis does and does not enable us to understand about modern social problems and issues.

Semester 1.

Mr. Nicholson.

126. PUBLIC POLICY TOWARD BUSINESS.

This course examines the various types of industrial organization, the degrees of monopoly in competition, and the development of public policies that affect business. Among issues traced will be the development of anti-monopoly regulation, consumer protection, and public utilities. Business performance and government regulation will be related to criteria from Economic Theory.

Semester 2.

Mr. Veendorp.

160. INTRODUCTION TO STATISTICAL ANALYSIS.

Basic concepts and techniques of statistical method in economic analysis: descriptive statistics; permutation and combination; an introduction to probability theory; sampling distribution; standardized normal distribution and other related distributions; simple and multiple regression; simple forecasting and statistical decision-making.

Semester 1. Mr. Puffer.

176. COMPARATIVE ECONOMIC SYSTEMS.

Many different political and economic systems exist in the world. Most systems are continually undergoing changes that gradually, but importantly, affect their performance. This course surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Mixed economies, market socialist and centrally planned economies are examined.

Semester 1.

Mr. Hsu.

177. CHINESE ECONOMY.

This course is a comprehensive survey of the Chinese economy—its development, institutions, and policies. The major topics to be covered are: (1) The Economic Heritage; (2) Maoist Economic Development: Ideology and Strategy; (3) Rural and Agricultural Development; (4) Industrial Development; (5) Planning and Resource Allocation; (6) Human Resources: Population, Health Care, Education; (7) International Economic Relations.

Semester 2. Mr. Hsu.

205.1. MICROECONOMIC THEORY.

The objective of the course is to describe and analyze how a market-oriented economy functions in answering five basic economic questions. These are: (a) What commodities to produce? (b) How much of each to produce? (c) What productive techniques to use and how to provide incentive? (d) How to distribute the output among the various members of society? (e) What provision to make for the future? Interspersed with the theory, the course contains frequent examples that demonstrate the use of microeconomics in solving problems faced by the decision-making unit in both the private and public sectors. Semester 1.

Mr. Veendorp.

205.2. MACROECONOMIC THEORY.

This course focuses mainly on the forces that affect the overall performance of the economy. It is a study of the determinants of economic activity (such as consumption, investment, government purchases, and exports); measures of economic performance (such as the level and rate of growth of national income and product, the level of employment and unemployment, the general price level, and the nation's balance of international payments). In addition, the course deals with specific, current, economic problems facing the U.S. economy, discusses public policies instituted to deal with them, their success or failure, and the repercussions of some of these policies on world economies.

Semester 2.

Ms. Ott.

207. INTERNATIONAL ECONOMICS.

Applies and develops concepts of economic theory to such questions as: determinant of international and regional specialization and trade, the theory of tariff intervention, the balance of payments, adjustment forces and disequilibria, and application of theory to important issues of international trade. Semester 1.

Mr. Van Tassel.

209. MARXIST ECONOMIC THEORY.

Introduction to Marxist Economic Theory. A comparison will be made between the development of Marxist and neoclassical economic analysis. Prerequisite: Economics 11 and consent of instructor.

Semester 1. Mr. Shakow.

224. HISTORY OF ECONOMIC DOCTRINE. Not offered, 1976-77.

Economic thought profoundly influences modern society even when it is not well understood. Policy-makers are affected by economic thought in ways which are not always fortuitous. The great English economist, Lord Keynes, has written, "Madmen in authority who hear voices in the air are distilling their frenzy from some academic scribbler of a few years back." This course is a survey of developments in economic thought. It traces the sense in which economics has evolved as a science — a method of thinking clearly about complex and important social problems. Attention is also paid to the influence of economic thought on noneconomists — on policy-makers and general citizens.

Mr. Nicholson.

228. ECONOMIC DEVELOPMENT.

This course will examine the major theories of economic development, the major problems confronting the less developed countries, and the policies and strategies appropriate for economic development. The purposes are to show the relevance of economics in international development, to promote an understanding of the problems of the less developed countries, and to help provide analytical skills useful to students interested in a career in international development. Semester 1.

Mr. Hsu.

265. BASIC ECONOMETRIC THEORY.

Introduction to econometric methods; statistical inferences and

testing hypotheses; model-building technique and theoretical justification of the model and the estimation method used. Various estimation methods will be presented and evaluated in terms of their performance and validity in economic empirical studies.

Semester 1.

Staff.

266. APPLIED STATISTICS AND ECONOMETRICS.

Not offered, 1976-77.

Integration of statistical concepts with the estimation and forecasting of economic variables: estimation of production function; cost analysis; quality analysis; linear programming; input-output method; estimation of aggregate supply and demand function; model for national economy. Prerequisite: Economics 160 or 265.

269. ECONOMIC HISTORY.

The objective of this course is to provide an introduction to the economic history of the developed capitalist countries. Semester 2. Mr. Shakow.

271. INTRODUCTION TO MATHEMATICAL ECONOMICS.

An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: consent of the instructor.

Variable credit. Semester 1.

Staff.

280. JUNIOR HONORS.

Designed to assist honors candidates in integration of the field. Semester 2. Mr. Nicholson.

281. SENIOR HONORS.

Variable credit. Semesters 1, 2.

Staff.

282. HONORS.

Eligible students selected by the department may work off campus for a summer and a semester as junior professional economists in business, government or industry and receive academic credit.

Variable credit.

Semesters 1, 2, Staff.

301.1. ECONOMIC THEORY.

Semester 1.

Mr. Veendorp.

301.2 MICROECONOMICS.

Semester 2.

Mr. Veendorp.

302.1 ECONOMIC THEORY.

Semester 1.

Ms. Ott.

302.2. MACROECONOMICS.

Semester 2.

Staff.

312. APPLIED MACROECONOMICS. Not offered, 1976-77.

313. SEMINAR IN MONETARY ECONOMICS.

Semesters 1, 2,

Mr. Weinrobe.

325. PUBLIC FINANCE SEMINAR.

Semesters 1, 2.

Ms. Ott.

326. INDUSTRIAL ORGANIZATION SEMINAR. Not offered, 1976-77.

327. INTERNATIONAL TRADE SEMINAR, Not offered, 1976-77.

328. ECONOMIC DEVELOPMENT.

Semesters 1, 2,

Mr. Hsu.

Education

DEPARTMENT FACULTY

Helen J. Kenney, Ed.D., Professor of Education; Department

William C. Kvaraceus, Ed.D., Professor of Education and Sociology

David Zern, Ph.D., Associate Professor of Education, Adjunct in Psychology

Thomas G. Carroll, Ph.D., Assistant Professor of Education Catherine C. Morocco, Ed.D., Assistant Professor of Education Marcia A. Savage, Ed.D., Assistant Professor of Education, Dean of the College

William E. Topkin, Ed.D., Assistant Professor of Education, Dean of Students

Elaine M. Holland, M.A., Lecturer in Education Spencer R. Potter, Ed.D., Lecturer in Education Lawrence Bader, Ph.D., Assistant Professor of Education

Eleanor R. Moosey, Ed.D., Assistant Professor of Education (Affiliate)

With the cooperation of Walter Schatzberg, Ph.D., of the Department of Foreign Languages and Literatures: David Tepper, Ph.D., of the Department of Mathematics: Richard B. Ford, Ph.D., of the Department of History; Duane S. Knos, Ph.D., of the Graduate School of Geography; Robert N. Beck, Ph.D., of the Department of Philosophy; Donald W. Krueger, M.F.A., of the Fine Arts Department; Virginia M. Carr, Ph.D., and James Macris, Ph.D., of the Department of English; Anthony W. Hodgkinson, Department of Visual and Performing Arts; Clinical Instructors in Education, Barbara Kohin, Ph.D., and Hessa Miller, M.A.

UNDERGRADUATE PROGRAMS

The department encourages all students who may be interested in preparing for careers in education to consult with some member of its staff early in their careers at the University. During the first two years, students should complete as many specific requirements for the degree of Bachelor of Arts as possible, and lay a broad foundation of scholarship in the subjects in which they wish to specialize. However, a limited set of education courses has been made available for freshmen and sophomores.

In conformity with its policy of emphasizing the importance of scholarly background, the department offers its courses as electives, and not as undergraduate majors.

However, to prepare those students contemplating careers in education, the department provides a number of internship experiences in the senior year. These internships offer coordinated course work and practicum experiences in elementary education with a special focus on early childhood and the primary grades, in selected secondary level subject matter areas, and in special education. A special sequence provides first level training in educational clinical work.

The internship programs serve as a transition to professional study at the graduate level and for entry into beginning teaching and special assistant positions. The elementary level teacher education program has been approved by the Interstate Certification Compact, a legally based certification reciprocity agreement between Massachusetts and 31 other states and the District of Columbia. The special education sequence, taken as an extension of the regular teaching module, leads to approval in Massachusetts for teaching children with special needs. The secondary level teaching module leads to certification in Massachusetts.

The internship module is limited to seniors who have completed major requirements at a satisfactory level of scholarship. Most interns carry the teaching internship for a three to four course credit block during either the first or the second semester of their senior year. The decision to elect the internship module must be made before the end of the junior year, and must be approved by the Department of Education, and for secondary school teaching must be reviewed in addition by academic departments for competency in subject matter areas.

GRADUATE PROGRAMS

The department offers one program leading to the degree of Master of Arts in Education and another leading to the degree of Doctor of Education.

MASTER OF ARTS IN EDUCATION

Admission Requirements: In addition to the general admission requirements of the Graduate School, a personal interview is usually required by the Department of Education.

Programs Available: Three programs leading to the degree of Master of Arts in Education are available:

- 1) Educational Analysis: This program provides a broad theoretical background in the four program areas around which graduate work in the department is organized. These areas are described in the section on the doctoral program. The program can be terminal or can serve as an entree to further graduate studies at the doctoral level.
- 2) Special Education/Early Childhood: This program provides an opportunity to develop a broadened base of skills and understandings within the areas of special education and/or early childhood. Experiences will include both formal course work and field placements.
- 3) Extended Training for Educational Practitioners: This program is individually designed to provide new perspectives and skills for persons who are already serving as teachers in elementary schools, secondary schools, and junior colleges, or functioning in administrative or support personnel roles.

Program Requirements:

- 1) Courses: for further details on course requirements, consult the Department of Education.
- Internships: The department provides opportunities for extended internships with supervision.
- 3) Thesis or Additional Study in Lieu of Thesis: All candidates for the degree of Master of Arts in Education must choose one of the following plans: Prepare an acceptable thesis, or, elect, in lieu of thesis, a seminar in which intensive work will be required in preparing and presenting professional papers before fellow graduate students and members of the staff, or, elect, in lieu of thesis, two additional full courses.
- 4) Final oral examination: The passing of a final oral examination will be required of all candidates.

DOCTOR OF EDUCATION

The major thrust of the graduate program in the Department of Education at Clark University is to develop an educator with conceptual and practical skills in understanding and dealing with the processes and problems of schools, using a variety of approaches from the social sciences. This person may work in a school system, at a university, or with a private agency. Working as an Educational Analyst, he or she may be engaged in the design, administration, or evaluation of new or presently existing programs.

The psychological or sociological orientation of the Educational Analyst will help to differentiate the kinds of background knowledge and competence to be acquired. If, for example, curriculum changes in the area of language arts are of concern to the student, more work will be focused in basic psychology, educational psychology, and pedagogy. If community involvement in education is the orientation, more work in sociology, anthropology, educational sociology, and political sciences may be appropriate.

There are four major components to this doctoral program: (1) Social Science Foundations — depending upon the individual student's orientation, he/she will pursue an extended program relating psychological and sociological perspectives to issues in education. All students will be expected to acquire expertise in both foundation fields that will be examined through a variety of learning experiences, including integrative field studies; (2) Educational Process — students will acquire or otherwise demonstrate an appropriate level of competence in understanding and applying principles and criteria involved in curriculum decisions, development, and implementation; (3) Research and Evaluation - all students will be expected to demonstrate or otherwise acquire an appropriate level of competence in statistical procedures and research design; and (4) Consultation and Group Dynamics - all students will be expected to participate in specific experiences aimed at developing the interpersonal skills needed to work effectively with small groups and to develop effective supervisory and consulting techniques.

The formal course of study is annually evaluated through individual assessments including the required preliminary exams. The design and preparation of a dissertation is the final requirement of the program, offering the student the opportunity to study in depth a topic of specific concern to her or him.

Applicants for admission to the program will be expected to give evidence of high scholarly achievement and leadership promise in their field. Other evidence of potential such as results from Graduate Record Examinations, Miller Analogies, etc. may be required. Potential candidates are encouraged to sit in on graduate classes and otherwise familiarize themselves with the graduate program before completing formal application procedures. Personal interviews with staff of the department will then be required before applications are acted upon. In special cases, foreign students may be excused from the examination and interview requirement.

The department admits to graduate work only those students who plan to enroll in the Ed.D. program on a full-time basis. A residence requirement demands a minimum of full-time study (not less than ten full courses beyond the master's degree). The student is required to pass course work with distinction. The number of courses to be taken is determined through consultation with the student's individual advisor, but generally calls for an academic year of full-time study beyond the master's program. Language requirements in the department are optional and relate to the student's background and future professional goals.

COURSES

088. DIRECTED READINGS - UNDERGRADUATE.

Variable credit.

Semesters 1, 2. Staff.

105. DIMENSIONS OF CONTEMPORARY EDUCATION.

The aim of the course is to provide an introduction to the discipline of education. The experience will be intensive, committing the student's time and energies full-time for five days a week. Structurally, the learning experiences will be developed in the following manner: a particular theme will serve as the focus for each of the seven weeks during which the course takes place. Typical themes are: Education for Self or Society; Teachers and Teaching in Higher Education; To Grade or Not to Grade; Educating the Child Who is Different; School Reform; Radical Vision and the Roots of Tradition; The Young Child;

Comparative Study of Day Care. Double course, Modular Term.

Mr. Zern, Staff.

140. MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS.

Refer to course description under Mathematics E.1 (COPACE Bulletin).

Full course, Semester 2.

150. SEMINAR IN MATHEMATICAL CURRICULUM METHODS AND MATERIALS.

Methods and materials are taught: (1) to acquaint the student with various methods of approach for theories on teaching math on the secondary school level, and (2) to give the student a prestudent-teaching experience. While conducting mini-courses in math in local high schools, the seminar discusses articles that are concerned with teaching math, the relationship of the theories to the practice, the problems that are encountered within the mini-courses, and methods of teaching math. Various field trips and guest speakers will be included.

Full course, Semester 1.

Mr. Tepper.

200. ENVIRONMENTAL EDUCATION WORKSHOP.

Refer to course description under Geography 200. Mr. Knos, Mr. Halverson.

201.1. EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF CHILD DEVELOPMENT.

Principles of child development with emphasis upon maturation and learning in the elementary school years. Recommended for those planning to take Internship Module.

Full course, Semesters 1, 2,

To be announced.

201.2. EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF ADOLESCENT DEVELOPMENT.

Principles of adolescent development with special emphasis upon learning and personality development in the secondary school years. Recommended for those planning to take the Internship Module.

Full course, Semester 2.

To be announced.

201.3. EDUCATIONAL PSYCHOLOGY: CONTEMPORARY ISSUES IN EDUCATION.

An introduction to some contemporary issues in education and an overview of theoretical and research literature which may give insight into developmental and educational processes. The emphasis will be on "why" (within the framework of educational settings) rather than "how to." Recommended for those planning to take the internship module and who are working with the younger child.

Full course, Modular Term.

To be announced.

201.4. EDUCATIONAL PSYCHOLOGY: SPECIAL TOPICS IN SECONDARY EDUCATION.

Individual or small groups of students will study, discuss, and report on topics of central importance to education during the adolescent years.

Variable credit.

Semesters 1, 2, Modular Term.

Ms. Savage.

202. WORKSHOP IN SMALL GROUP AND INTERPERSONAL PROCESSES: ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.

Refer to course description under Sociology 205b. Full course, Semester 1. Mr. Sampson.

203. INTERNSHIP: TEACHING GEOGRAPHY.

Refer to course description under Geography 203. Semester 2. Mr. Knos, Staff.

204. CURRICULUM DEVELOPMENT AND ANALYSIS IN GEOGRAPHY.

Refer to course description under Geography 204. Full course, Semester 1. Mr. Knos. Staff.

205.1. METHODS OF TEACHING AND RESEARCH IN **EDUCATIONAL SYSTEMS.**

Refer to course description under Geography 205.1. Full course, Semester 1. Mr. Knos, Staff.

205.2. EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Refer to course description under Geography 205.2. Full course, Semester 2. Mr. Knos, Staff.

206. AUTOBIOGRAPHY WORKSHOP.

Refer to course description under Geography 206. Half course, Semester 1. Mr. Knos, Staff.

211. FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING.

Dual focus on: (1) illustration and analysis of various cognitive and social interpersonal models of human behavior in the classroom setting, and (2) introduction to and development of skills involved in systematic observational methodologies, with the classroom as the natural setting in which the work is done. Students carry out a series of assigned observation tasks and execute their own individual projects. Full course, Semester 2. Mr. Zern.

216. EARLY DEVELOPMENTAL PROCESSES: THEORY AND PRACTICE. Not offered, 1976-77.

A selective consideration of some basic theoretical models of normal human development, analyzing their implications for understanding the determinants of behavior in infancy and early childhood, and their consequences in later development, particularly in terms of various developmental deviations. Students will observe normal and "special" children of various ages (infancy through adolescence) in various home and institutional settings. Classroom discussions and assignments will focus on relating the theory to the behaviors observed in the field

Full course.

Mr. Zern.

217. INTERNSHIP TEACHING.

Refer to Education 272.

219. PSYCHO-EDUCATIONAL ASSESSMENT AND INDIVIDUALIZED INSTRUCTION.

(Formerly Education 319.) This course centers on: (1) psychoeducational diagnostic techniques, including both individual and standardized group tests that would be used to gather relevant data on children with special needs; and (2) the analysis and synthesis of psycho-diagnostic data to formulate an effective. individually appropriate educational plan. Full course, Semester 2. Ms. Holland, Staff.

222. ATTENTION AND ATTACHMENT:

ISSUES IN INFANT CARE. Not offered, 1976-77.

The attention processes and the attachment behaviors of the infant will be emphasized in this course on the first years of life. Both theoretical and research literature will be analyzed. Direct observations of infants and relevant films will also be utilized. Full course. Mr. Zern.

230. CREATIVE ARTS IN EDUCATION.

A seminar-workshop course, exploring and developing specific techniques for using music, visual experiences, and drama as tools to help children learn.

Full course, Semester 2. Academic Departments, Staff.

234. FIELD PROJECTS.

Provides individualized and extended experiences in a wide variety of agencies and institutions involving the education and comprehensive care of children and youth. Supervision is provided by the University and field agency personnel; combines related seminars and conferences as a basis for critical analysis of the experiences within the context of applied theory and practice.

Variable credit.

Semesters 1, 2, Modular Term.

Ms. Holland, Staff.

242. EMOTIONAL PROBLEMS AND SCHOOL LEARNING.

Considers the psychodynamics of emotional disturbance in children and adolescents, diagnostic and remediation techniques, and various educational approaches. Involves practicum experiences with disturbed children.

Full course, Semester 2. To be announced.

252. THE CULTURAL CONTEXT OF EDUCATION.

Treating education as a process of communication, this course will review cross-cultural studies by anthropologists who seek to explain different patterns of child rearing and schooling in terms of the cultural contexts in which they occur. Readings will include studies of societies in Africa, Latin America, Native North America, and the United States.

Full course, Semester 1.

Mr. Carroll.

255. SOCIAL CRITICS AND SOCIAL ANALYSTS OF EDUCATION.

In the past ten years we have witnessed the development of four traditions of social criticism focused on education: "Litertarian" — (e.g., Holt, Goodman); "Political Reformers" — (e.g., Kozol, Kohl); "Third World Reformers" — (e.g., Illich, Friere); and "Social Analysts" — (e.g., Henry, Silberman). The course provides an intensive review of the literature as a context in which students can develop their own positions on issues raised by these authors.

Full course, Modular Term.

Mr. Carroll.

260. LINGUISTICS AND LANGUAGE LEARNING.

Refer to course description under Linguistics 260. Pre- or corequisite: Linguistics 114., which may be taken either prior to or concurrently with this course, and for which substitutes may be available if the instructor is consulted well in advance; permission required. Given in alternate years.

Full course, Modular Term.

Staff.

261. TESTS AND EVALUATION: THEORY AND TECHNIQUES OF MEASUREMENT AND APPRAISAL.

(Formerly Education 314). The methods and problems involved in the evaluation of abilities, interests, and achievement of children and youth, both by standardized instruments and by special purpose measures.

Full course, Semester 1.

Mr. Kvaraceus.

262. TESTS AND EVALUATION: PRACTICA.

(Formerly Education 315). Provides supervised testing experiences in schools or child welfare agencies. Prerequisite: Education 261.

Full course, Semesters 1, 2, Modular Term. Mr. Kvaraceus, Staff.

263. INDIVIDUAL ASSESSMENT OF MENTAL ABILITIES.

(Formerly Education 317). Theory and intensive experience in administering and interpreting individual tests of intelligence with major emphasis on Stanford-Binet Revision and Wechsler Intelligence Scales. Emphasizes mechanics of administration and interpretation for use of test results in educational settings. Pre-requisite or co-requisite: Education 261.
Full course, Semester 1.

265. TEACHING ENGLISH AS A SECOND LANGUAGE.

Refer to course description under English 295.
Full course, Semester 2. Mr. Macris.

272. INTERNSHIP TEACHING.

(Formerly Education 217.) An intensive period of observation and teaching in a secondary level or special subject field in which the student plans to teach. Individual supervision is given by the academic department and by a teacher in a cooperating school. Admission on consent of both the academic and education departments.

One and one-half course, Semesters 1, 2.

Academic Departments, Staff, Cooperating Teachers.

272.(1-7). SEMINAR IN STUDENT TEACHING.

Conference course running concurrently with student teaching at the secondary level and in special subject fields. The seminar aims to develop the students' problem-solving ability as it relates to the specific issues and concerns of the classroom.

272.1. Seminar in Teaching English.

272.2. Seminar in Teaching Foreign Language.

272.3. Seminar in Teaching Social Studies.

272.4. Seminar in Teaching Science.

272.5. Seminar in Teaching Art.

272.6. Seminar in Teaching Theatre.

272.7. Seminar in Media Studies. Half course, Semesters 1, 2.

Academic Departments.

273. SEMINAR IN CURRICULUM AND METHODS IN MATHEMATICS TEACHING.

Full course, Semester 2.

Mr. Tepper.

278. EDUCATION IN CHANGING SOCIETIES.

Treating education as a process of communication that may function to maintain or alter cultural patterns of behavior, this course will use cross-cultural studies to compare contexts in which education has promoted or inhibited natural social change. Implications drawn from these studies will then be used to examine attempts to employ education as a force to accelerate or control programs of planned social change. Readings will include studies of societies in Africa, Latin America, the United States, and Asia.

Full course, Semester 2.

Mr. Carroll.

279. SOCIAL PSYCHOLOGICAL THEORY: SMALL GROUP AND INTERPERSONAL PROCESSES.

Refer to course description under Sociology 291b.
Full course, Semester 1. Mr. Sampson.

280. JUVENILE DELINQUENCY AND THE SCHOOL.

Considers the role of the school as a central agency in the prevention and control of norm-violating behavior.

Full course, Modular Term.

Mr. Kvaraceus.

282. INSTRUCTION AND CURRICULUM DEVELOPMENT AT THE SECONDARY LEVEL.

An introduction to the fundamentals of the instructional process and curriculum planning in secondary education.

Half course, Semester 1. To be announced.

282.(2-7). INSTRUCTION AND CURRICULUM IN SUBJECT FIELDS.

Principles of curriculum development and teaching in specific and special subject fields.

282.2. Instruction and Curriculum Development in Foreign Languages.
282.3. Instruction and Curriculum Development in Social

Studies.

282.4. Instruction and Curriculum Development in Science. 282.5. Instruction and Curriculum Development in Art. 282.6. Instruction and Curriculum Development in Theatre. 282.7. Instruction and Curriculum Development in Media Studies.

Half course, Semester 1.

Academic Departments.

287. INTERNSHIP MODULE IN ELEMENTARY EDUCATION.

This integrated internship provides an intensive work-study experience in elementary schools and other educational agencies in the Worcester area. It involves theoretical course work; a full-time supervised experience in schools or in some other educational, welfare or recreational agency; and related workshops, seminars, and conferences. The elementary module provides credit in the following areas: student teaching (two full courses including the professional teaching seminar) with three half-courses distributed to cover curriculum, methods, and materials of instruction in the basic elementary school program. Limited to seniors who will have completed major requirements and whose grade point average reflects high level of scholarship. Students contemplating internships must make application during their junior year.

Three-and-one-half course, Semesters 1, 2,

Ms. Kenney, Staff, Cooperating Teachers.

288. SOCIOLINGUISTICS.

Cross-disciplinary perspectives on language behavior. communicative competence, attitudes, and socio-cultural variations as they affect individuals, groups, and societies. A modest study will be designed and carried out by the students. Full course, Semester 2. Ms. Morocco.

289.(1-3). PRACTICA IN SPECIAL EDUCATION.

The department offers a number of specialized practica that provide an in-depth experience teaching children with special needs. A student may select one practicum in the second half of the year following completion of the basic internship teaching module. Each practicum is designed to focus on a specific degree of learning need - mild, moderate, or severe - and on a particular program setting — regular education with modifications, substantially separate programs, or a day school in a facilty other than a public school.

289.1. Practicum in Teaching School-Age Children with Mild Special Needs.

289.2. Practicum in Teaching School-Age Children with Moderate Special Needs.

289.3. Practicum in Teaching School-Age Children with Severe Special Needs.

Prerequisite: Education 287.

Full course, Semester 2.

Staff, Cooperating Teachers.

290. PHILOSOPHY OF EDUCATION.

The aims, processes, and materials of education with special reference to the influence of philosophical ideas on educational problems.

Full course, Semester 1.

Mr. Beck.

291. DEVELOPMENTAL DEVIATIONS: LEARNING PROBLEMS AND EDUCATIONAL INTERVENTIONS.

Special needs children whose developmental problems involve mental retardation, emotional disturbance, neurological impairment, physical handicaps, and social maladjustment will be studied. Educational programs to meet these needs in regular classrooms and special centers will be reviewed. Observations will be arranged. Prerequisite: permission of the instructor. Limited to juniors and selected sophomores. Full course, Modular Term.

Ms. Kenney.

292. PRACTICUM - FIELD PLACEMENTS IN SPECIAL EDUCATIONAL AND CLINICAL SETTINGS.

Must be taken concurrently with Education 291. Course meets 15-20 hours a week including a weekly two-hour practicum seminar. Prerequisite: permission of the instructor. Limited to juniors and selected sophomores.

Full course, Modular Term. Ms. Kenney.

293. WORKSHOP IN SECONDARY ENGLISH CURRICULUM.

Refer to description under English 293. Full course, Semester 1. English Department.

294. MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH.

Refer to course description under English 294. Full course, Semester 2. English Department.

295. METHODS OF ART EDUCATION.

A practical, experiential introduction to art and design education materials, methods, and skills as applied to realistic classroom situations.

Half course, Semesters 1, 2,

Mr. Krueger, Staff.

296. PSYCHO-EDUCATIONAL CASE STUDIES.

Considers psycho-educational assessment of the individual child with educational planning. Full course, Semester 2. Mr. Kvaraceus, Staff.

297. PATTERNS OF CHILD-REARING: A CROSS-**CULTURAL ANALYSIS.** Not offered, 1976-77.

Analysis of various sub-cultural and cross-cultural patterns of child-rearing, dealing with both similarities and differences within the human species. The materials for this consideration will be both theoretical (particular emphasis on Freud and F. Kluckhohn) and descriptive case studies such as Walden II, day care and higher education and the kibbutz. Full course. Mr. Zern.

303. HUMAN LEARNING AND INSTRUCTION.

Analysis of basic psychological models as they relate to the issues involved in human learning and instruction. Application of these perspectives to the particular situation of the classroom will be considered concurrently with a more abstract consideration of the perspectives themselves. Full course, Semesters 1, 2. (Course continues Semester 2 as another full course.) Mr. Zern.

304. CURRICULUM AND INSTRUCTIONAL SYSTEMS.

Considers the theoretical bases of curriculum and examines various instructional methodologies in detail. Full course, Semester 2. Ms. Kenney.

309. THE WORKING ALLIANCE: THEORY/PRACTICE.

This course provides an overview of important concepts related to the working alliance. It is designed to blend theory, experience, and application in the area of leader-member interaction and cooperative decision making. Interpersonal skills to be emphasized include: empathetic listening, accurate observations, unambiguous communication, and useful feedback. Readings are drawn from the areas of group dynamics. leadership behavior, participatory decision making, the helping relationship, and supervision. Full course, Semester 1. Mr. Bader.

311. PRINCIPLES AND PRACTICES OF GUIDANCE.

Not offered, 1976-77.

Within a rationale for pupil services, consideration will be given to the day-to-day functioning of the so-called guidance counselor - his work within the structure of the system as well

as his coordination of services within the school with those of community service agencies.

Full course.

Mr. Potter.

312.1. INTRODUCTION TO THEORIES OF COUNSELING.

Emphasis will be upon the theory and methodology of counseling and upon the management of typical counseling problems. The diagnosis and referral of behavior disorders and related personality maladjustments will be considered. Case material will be presented and analyzed. (Education 311 suggested as a pre-requisite.)

Full course, Semester 1.

Mr. Topkin.

312.2. COUNSELING PRACTICUM.

Field placement in Worcester area schools and weekly seminars. Relevant readings will be required.

Full course, Semester 2.

Mr. Topkin.

318. PSYCHO-EDUCATIONAL ASSESSMENT OF THE MULTI-HANDICAPPED. Not offered, 1976-77.

Considers specialized tests and techniques in the assessment of children who have major learning handicaps. Gives special emphasis to the utilization of consultants in the evaluation process.

Full course.

321. SEMINAR IN THE ANTHROPOLOGY OF EDUCATION.

This course provides a review of social and cultural theories that provide an understanding of education as a process of cultural communication. Theory will be applied to an examination of education at three contextual levels: classroom, school, and community. Emphasis will be placed on studies with a microanalytic research focus.

Full course, Semester 1.

Mr. Carroll.

327. SCHOOL CONSULTATION: ISSUES/PROBLEMS.

This course addresses itself to the area of organizational consultation with a special emphasis on school systems. Its purpose is to provide an overview of important conceptual issues faced by consultants in their everyday work. The format will blend theoretical concepts, case study analysis, and presentations. The course will become a laboratory for effective consultation in which members will consult with other members and with individuals from the Worcester community invited to present problems for consultation.

Full course, Semester 2.

Mr. Bader.

331.1. RESEARCH TOOLS AND TESTS. Not offered, 1976-77.

An introduction to the development of questionnaires and interview techniques coupled with an examination of test validation procedures.

Full course.

331.2. STATISTICS IN EDUCATIONAL RESEARCH.

An introduction to the descriptive, parametric, and non-parametric statistical tests used in educational research. Full course, Semester 2. Mr. Carroll.

336. LANGUAGE AND COGNITIVE DEVELOPMENT.

Will investigate the language acquisition process, the relationships between language and cognitive development (emphasizing the two- to seven-year-old period), and the effects of dialect and cultural variations on communication processes and learning in educational settings. Theoretical issues and research literature will be analyzed and a modest study will be designed and carried out by the students.

Full course, Semester 1.

Ms. Morocco.

338. BILINGUAL EDUCATION.

Theoretical and practical issues in designing, implementing, and evaluating programs for children who are receiving bilingual education.

Full course, Semester 2.

To be announced.

341. SOCIAL-PSYCHOLOGICAL ISSUES IN EDUCATION.

A consideration of selected issues in American education from the point of view of psychological and sociological perspectives. Planned particularly for entering doctoral candidates — others with permission.

Full course, Semester 1.

Mr. Kvaraceus, Ms. Kenney.

343. ANALYSIS OF THE RESEARCH PROCESS.

A critical examination of the nature of the research enterprise conducted primarily through an analysis of the strengths and weaknesses of existing research in the social sciences focused on educational issues. Planned for doctoral students — others with permission.

Full course, Semester 1.

Mr. Zern.

344. RESEARCH DESIGN.

Critical analysis of alternative ways to design research with some time focused on problems generated by students.

Full course, Semester 2.

Ms. Morocco.

346. SEMINAR IN TEACHING-LEARNING INTERACTION.

A variety of approaches to the consideration of teaching-learning interactions primarily, although not exclusively, classroom oriented. Course will involve: (1) a theoretical level of analysis utilizing basic psychological models to explain the teaching-learning interaction; and/or (2) a degree of independent research based on instruments for natural observation already developed. Relation emphasis in the two areas will depend on the priorities of students and faculty member. Some prior experiences and theoretical background will be assumed.

Year course

1/2 course, Semester 1. 1/2 course, Semester 2.

Mr. Zern.

347. THE EDUCATIONAL PROCESS: HISTORICAL AND PHILOSOPHICAL PERSPECTIVES.

Consideration of a variety of seminal ideas that have shaped the field of education. Critical topics will be dealt with in readings and with the help of relevant guest speakers from inside and outside of the department and University.

Year course,

1/2 course, Semester 1.

1/2 course, Semester 2.

Mr. Zern.

348. METHODS OF SOCIOLOGY AND ANTHROPOLOGY APPLIED TO THE CLASSROOM.

Applies central ideas and methods of inquiry in sociology and anthropology to the study of education as a process of cultural communication at three contextual levels: classroom, school, and community. Techniques of direct observation, interviewing, sociograms, and unobtrusive measures will be used to examine an educational question in these contexts.

Full course, Semester 2.

Mr. Carroll.

GRADUATE READINGS AND THESIS COURSES

300. GRADUATE INTERNSHIP IN EDUCATION.

(Formerly Education 379.) Variable credit.

Semesters 1, 2, Modular Term.

Staff.

301. DIRECTED READINGS.

(Formerly Education 37.) Variable credit.

Semesters 1, 2, Modular Term. Staff.

302. RESEARCH IN EDUCATION.

Variable credit. Semester 1.

Staff.

371. THESIS.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

380. DEPARTMENTAL SEMINAR ON CONTEMPORARY EDUCATIONAL PROBLEMS AND ISSUES.

For master's degree candidates who are not writing a thesis. Requires a major paper.

Full course, Semester 2.

Mr. Kvaraceus, Staff.

English

DEPARTMENT FACULTY

William H. Carter, Jr., Ph.D., Professor of English, Department Chairman

James F. Beard, Jr., Ph.D., Professor of English
Charles S. Blinderman, Ph.D., Professor of English
*Serena S. Hilsinger, Ph.D., Professor of English
James Macris, Ph.D., Professor of English and Linguistics
Stanley Sultan, Ph.D., Professor of English
J.E. Parsons, Ph.D., Associate Professor of English
David H. Abraham, Ph.D., Assistant Professor of English
James P. Elliott, Ph.D., Assistant Professor of English
Virginia Mason Carr, Ph.D., Assistant Professor of English
Arthur F. Kinney, Ph.D., Professor of English (Affiliate)
Kenneth S. Davis, M.S., Professor of English (Affiliate)
John H. Dorenkamp, Jr., Ph.D., Professor of English at the
College of the Holy Cross (Exchange Professor for Second
Semester 1976-77)

*On leave, Second Semester.

PROFESSORS EMERITI

Karl O.E. Anderson, Ph.D., Professor of English, Emeritus Jessie C. Cunningham, Ph.D., Associate Professor of English, Emeritus

UNDERGRADUATE PROGRAM

The English Department believes that it should provide courses taught by specialists in the major periods of English and American Literature and insist that the English major have, upon graduation, some background in most of these periods. We feel that this background ought to include not only experience of the literature of these periods but also some understanding of the historical and philosophical contexts in which the works were written. Ideally, an English major should possess, upon graduation, a sense of cultural history, a developed sensibility, and a knowledge of the major authors, works, and periods of English and American literature; also he should be capable of critical thinking and effective expression of that thinking. In sum, he should have achieved a rigorous humanistic education.

To this end, we provide certain elective and required courses for the first two years of the major — an elective Introduction to

Literature (English 10), involving intensive training in "close reading"; an elective tutorial in Expository Writing (English 18), providing intensive work in composition; a required survey of major figures, either British (English 100) or American (English 101); a required course focusing on the historical development of English Poetry (English 13); and a required course focusing on the historical development of either English fiction (English 154) or English drama (English 155). During the sophomore year we ask each major to select — in consultation with his/her adviser and other appropriate members of the staff — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study. To insure this careful integration, the department requires each major to consult with his/her adviser and obtain approval of her/his program at every registration period.

For majors in their junior and senior years we provide a series of courses and seminars devoted to intensive study of specific periods and authors, courses that demand mature and critical thinking and require independent work which reflects the student's ability to deal with complex ideas and express himself/herself effectively. During these last two years each major is also required to take one of two seminars specifically designed to achieve an integrating and synthesizing function — either English 297., Varieties of Literary Criticism, or English 298., The Mythopoetic Mode.

The above statement of policy is based, in part, upon our identification of our majors:

- Students whose goal is graduate work in English or American literature.
- Students who are preparing for primary or secondary school teaching.
- Students with a love of literature who wish a general education.

As to the first group — our program provides the background necessary for admission to and success in any graduate program, here or abroad, in English or American literature. As to the second group — our program demands and emphasizes knowledge of subject matter and assumes that it is certainly as important as development of the skills, methods, and techniques of teaching. Moreover, in cooperation with the Department of Education, we have worked out a meaningful concentration in Literature and English Education which leads to state certification. As to the third group — because literature does not exist in a vacuum, cannot be experienced or taught in a vacuum, our program provides a history of mind, as much as it does the history of that specific manifestation of mind — literature.



1. Basic Program for all English Majors

A. Recommended—but not required:
English 10. Introduction to Literature.
English 18. Expository Writing.

B. Required Survey Course —one of the following: English 100a and b. Major British Writers. English 101a and b. Major American Writers.

C. Two Required Genre Courses:

1. English 13. English Poetry (one full course, available both Semester 1 and Semester 2; recommended during the freshman year.)

Either English 154a and b. English Fiction
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are developed chronologically and help to consolidate the student's sense of period and of historical development.

D. Required 200-level Seminar—one of the following:

English 297. Varieties of Literary Criticism
English 298. The Mythopoetic Mode

English 298. The Mythopoetic Mode
Both of these offerings are designed to provide one kind of "capstone experience" and to develop key theoretical, analytical, and methodological skills.

E. Other 200-level Courses or Seminars (supplemented, where necessary or feasible, by appropriate Consortium offerings at Assumption College or the College of the Holy Cross):

- 1. To help majors develop greater historical perspective and awareness of the range and variety of English and American literature, all majors must take at least:
 - (a) two full 200-level courses or seminars dealing primarily with English literature written before 1700, e.g., 203. Medieval Literature; 206. Chaucer; 212a and b. Shakespeare; 215. Special Studies in Renaissance Drama; 216. Literature of the Renaissance; 220. Seventeenth Century; 222. Milton; 224. Radical Mode of Restoration Comedy.
 - (b) two full 200-level courses dealing with English or American literature written between 1700 and 1900, e.g., English 226. The Augustans and the Age of Johnson; 236. Romantic Period; 238. Blake; 239. American Literary Renaissance; 240. Poe, Hawthorne and Melville; 242a and b. Victorian Literature; 244. Romantic and Victorian Gothic; 245. Darwinism; 247. Dickens; 249. Twain, Howells and James.
- 2. In working out their various areas of concentration, majors will wish to elect the most relevant courses and seminars from the following: English 253. Modern American Drama; 254. Realism and Naturalism in American Fiction; 257. The Irish Literary Movement; 258. Lawrence and Joyce; 259. Modernist Poetry; 261. Yeats; 264. T.S. Eliot; 266. Virginia Woolf; 267. Special Studies in American Literature: Hemingway and Faulkner; 268. Eugene O'Neill; 273. F. Scott Fitzgerald and the Twenties; 291. Satire in Literature and the Visual Arts.

II. Individual Areas of Concentration

In consultation with his/her adviser and other appropriate members of the staff, each major shall select — normally during the sophomore year — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study.

III. Honors Program

Qualified majors are encouraged to apply in the spring of their sophomore year to participate in the Honors Program in English. Further information is available from the department.

IV. Consortium Offerings

The range of English offerings open to Clark students has been extended by the establishment of a cooperative arrangement with the English departments at Assumption College and the College of the Holy Cross. With the permission of the department, majors and graduate students may take a few carefully selected courses in literature at these institutions.

GRADUATE PROGRAM

The University offers a program leading to the Master of Arts degree in English. A limited number of scholarships providing tuition remission are available for superior students. The department also offers several teaching assistantships, involving half-time teaching and half-time study, with stipends ranging up to \$3,200 plus the remission of tuition.

For the Master of Arts, the student must satisfactorily complete at least eight full courses of work, including English 300[Introduction to Graduate Study] and either English 280. [History of the English Language (II)] or English 284 [Modern American English], and at least one additional seminar. During the second semester of his/her first year in residence, the student must satisfactorily complete English 349. [Thesis Workshop]; to obtain her/his degree, the student must also complete an acceptable master's thesis, English 350 (one full course); he/she must pass a written foreign language examination (in Greek, Latin, French, German, Italian, Russian, Spanish, or other foreign language approved by the department); and she/he must pass a final oral examination.

COURSES

10. INTRODUCTION TO LITERATURE.

This course provides the student with an opportunity for intensive reading and writing about basic elements of poetry, fiction, and drama — such as use of diction, imagery, point of view, tone, and structure. Small sections and limited reading lists will help establish an atmosphere conducive to significant class discussion; emphasis will also be placed on the student's writing effectively about his/her experience with literature. Strongly recommended for the English major. No student may take more than one section of English 10. Full course, Semesters 1, 2.

13. ENGLISH POETRY.

This course, required for the English major, focuses upon the development of the most important forms, themes, and movements of English poetry. It emphasizes intensive study and discussion of individual poems. A series of essays on assigned topics is required.

Full course, Semester 1. Full course, Semester 2.

Ms. Hilsinger. Mr. Carter.

14. LITERATURE OF FILM: RELATIONSHIPS BETWEEN LITERATURE AND FILM (Film Studies 14.).

A course in which relationships between popular literary works and significant films are explored in detail and in depth. Also included in the reading will be books of film and literary theory, aesthetics, history, etc. Prerequisite: Film Studies 10.
Full course, Semester 2. Mr. Hodgkinson, Mr. Elliott.

16. CREATIVE WRITING.

A course designed to cultivate and guide student work, particularly in the short story, the lyric poem, and the informal essay. Class meetings deal largely with important aspects of the art of fiction; published literary works and student manuscripts are discussed. Not open to freshmen. Prerequisite: one semester of study in literature taught in any department. Full course, Semester 2.

17. CREATIVE WRITING.

Open to students who have taken English 16 and to other students interested in writing verse. Prerequisite: the same as for English 16. Not open to freshmen.

Full course, Semester 1. To be announced.

18. EXPOSITORY WRITING.

This course is designed to improve the student's skill in expository writing. Heavy emphasis is placed on regular

conferences with individual students. Although the course is offered by the English Department, topics for papers are not restricted to literature. Expository writing implies a method of expressing one's views on any chosen subject; consequently, topics are chosen in consultation with the instructor. Full course, Semesters 1, 2,

19. INTERMEDIATE COMPOSITION. Not offered, 1976-77.

This course is designed to help those who have already acquired competence in expository writing to improve their style and effectiveness through practical experience. Special emphasis will be placed on stylistics, techniques of persuasion, and methods of organization through the study of works of established essayists and the close analysis of student papers. Enrollment limited to 15 students. Offered at the discretion of the department. Prerequisite: English 18 and consent of the instructor.

Full course. Mr. Blinderman.

25. WRITING FOR MAGAZINES.

The course will analyze the writing styles of different magazines (popular, trade, technical, etc.) and will help students develop appropriate styles for submission of stories and expository articles to these magazines. Offered at the discretion of the department. Prerequisite: permission of the instructor. Enrollment limited to 15.

Full course. Semester 1.

Mr. Davis.

88. DIRECTED READINGS.*

Variable credit. Staff.

89. DIRECTED WRITING.

Prerequisite: consent of the instructor and of the chairman of the department.

Variable credit. Staff.

90. SPECIAL PROJECTS.*

Variable credit. Staff.

*Note: When asking an instructor to sponsor DIRECTED READINGS (88) or a SPECIAL PROJECT (90), the student: (1) must be able to satisfy the instructor at the time of registration that he is competent to deal with the agreed-upon materials primarily as works of literature, and (2) must present a wellthought-out proposal. The student must have taken the initiative in conceptualizing the principles on which he/she will select Readings or carry out a Special Project, and she/he must have demonstrated competence in determining specific selections and procedures.

100. MAJOR BRITISH WRITERS.

This course is designed to give the beginning student a sense of the historical development of English literature; consequently, each author will be studied both as a representative of his own time and as part of a continuing tradition.

First semester: Beowulf; selections from Chaucer (in translation); Sir Gawain and the Green Knight; Spenser's Faerie Queene, Book III; selections from Shakespeare, Donne, and

Second semester: Gay's Beggar's Opera; Pope's Rape of the Lock: selections from Blake and Wordsworth; Dickens' Hard Times; selections from Browning and Hopkins; Shaw's Major Barbara.

Full course.

Semester 1. Ms. Carr. Semester 2. Mr. Sultan.

101. MAJOR AMERICAN WRITERS.

(Formerly English 111) Through study of representative masterworks, the course traces the main currents of American literature from Puritan times to the present. Authors to be read during the first semester include Sewall, Edwards, Franklin, Cooper, Poe, Hawthorne, Thoreau, Emerson, and Melville: during the second semester, Whitman, Twain, Howells. Dickinson, Adams, Crane, James, Frost, Eliot, Faulkner, and Hemingway.

Full course.

Semester 1. Mr. Elliott. Semester 2. Mr. Beard.

116. MODERN FICTION BY WOMEN WRITERS.

The selection of authors and works is based on three major concerns: that the literature read represent a chronological span, that it preserve a certain thematic coherence, and that it allow ample opportunity for discussion of aesthetic matters. The course is concerned with works written between 1892 and 1973. which provide portraits of women in all stages and conditions of life rendered in a broad spectrum of fictional techniques. Authors studied include Kate Chopin, Gertrude Stein, Diuna Barnes, Katherine Ann Porter, and Doris Lessing. Offered at the discretion of the department. Full course, Semester 1. Ms. Hilsinger.

120. LITERATURE AND LIBERATION, Not offered, 1976-77.

This course will study the way literature reflects and determines the position of women in societies from ancient Greece to modern suburbia. Offered at the discretion of the department. Full course. Mr. Blinderman.

125. THE SHORT STORY.

This course involves the intensive reading of a wide range of stories which exemplify a variety of fictional methods, affording the student some knowledge of the history of this literary type. The primary aim is to help the student develop an appreciation of the broadly human values implicit in the short story. Offered at the discretion of the department. Full course, Semester 1. Mr. Carter.

129. MODERN DRAMA.

A survey, with special emphasis on several major figures, of drama from Ibsen to the present. The first semester traces the reaction of naturalism against the "well-made play," the emergence of modern realistic drama, and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major post-war movements and some of the radical dramatic forms which they have produced. Full course, Semesters 1, 2.

130. INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

Mr. Abraham.

Introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography. biography, family history, narrative, fiction, and historiographical writings will be read and discussed. (See also History 110.) Full course, Semester 1. Mr. Ford, Mr. Formisano, Mr. Parsons,

132. MAJOR THEMES IN AMERICAN CULTURE.

An in-depth study of selected major themes and institutions in American Culture. Critical examination of the "American-ness" of such themes as Democracy, Individualism, Romanticism, Pragmatism, and Imperialism will focus on seminal, wideranging historical texts (e.g., Tocqueville's Democracy in America; Adams' Education). Literary works which express and evaluate these themes will complement this focus. Historical and literary readings will vary from year to year. (See also History

Full course, Semester 2. Mr. Campbell, Mr. Parsons.

143. MODERN BRITISH FICTION. Not offered, 1976-77.

The course deals primarily with the work of five twentieth-century British writers of fiction: Joyce, Lawrence, Woolf, Forster, and Lessing.

Full course.

Ms. Hilsinger.

144. MODERN AMERICAN FICTION.

A critical introduction to the best American fiction from about 1900 to 1960, with emphasis on its aesthetic values, sociological insights, and philosophical implications. Authors read include Dreiser, James, Anderson, Fitzgerald, Hemingway, Capote, Faulkner, Ellison, and Mailer.

Full course, Semester 1.

Mr. Beard.

145. CONTEMPORARY FICTION.

The purpose of this course is to acquaint the student with recent developments in fiction. The emphasis will be on English and American fiction, although some South American and Continental writers may also be included. We will look at both traditional and experimental forms. Works of such authors as John Barth, Vladimir Nabokov, Heinrich Boll, Anthony Burgess, Muriel Spark, Donald Barthelme, Walker Percy, etc., will be examined. Final choice of authors will depend upon availability of texts. Offered at the discretion of the department. Full course, Semester 2.

146. LITERATURE OF THE SIXTIES.

The course will be a survey of contemporary British and American fiction and poetry. Writers to be considered may include Burgess, Hawkes, Golding, Barth, Mailer, Malamud, Bellow, Heller, Vonnegut, and representative modern British and American poets.

Full course, Semester 2.

Mr. Elliott.

154. ENGLISH FICTION.

(Previously listed as English 14.) An exploration of narrative and fictive modes from their earliest appearances in English to the twentieth century. In the first semester, texts will include Moll Flanders, Clarissa, Tom Jones, Tristram Shandy, Frankenstein, and others. Writers considered in the second term will be Thackeray, Dickens, James, Carroll, Hardy, Conrad, Lawrence, Woolf, and others. Close attention will be paid both to texts and to their cultural contexts. Literary and intellectual history will figure largely in a survey which views the novel not only as reflector, but also as creator of its milieu. During the year some basic critical stances (e.g., Biographical, Marxist, Freudian, Decadent) will be examined, and their vocabularies will be scrutinized — skeptically.
Full course, Semesters 1, 2. Mr. Parsons.

155. ENGLISH DRAMA.

(Previously listed as English 15.) A course in the major periods of English drama before the twentieth century. The first semester covers medieval religious drama, and the drama of Tudor and Early Jacobean England. The second semester covers the drama from the later Jacobean period up to the turn of the twentieth century.

Full course, Semesters 1, 2.

Mr. Abraham.

161. ADVANCED CREATIVE WRITING. Not offered, 1976-77.

A course for serious undergraduate literary artists. Admission by consent of the instructor, who will require a sample of the student's work. Enrollment limited to ten. Offered at the discretion of the department.

Half course, Modular Term.

Mr. Sultan.

203. MEDIEVAL LITERATURE.

A study of the literature of Western Europe before 1500. The works read include epics such as Beowulf, The Song of Roland.

The Nibelungenlied, and the Njal's Saga; historical writings and folk tales important in the development of the Arthur story; romances such as Perceval, Tristan and Isolde, and Gawain and the Green Knight; Dante's Divine Comedy; Inferno; selections from Chaucer's Canterbury Tales.

Full course, Modular Term.

Mr. Anderson.

206. SEMINAR: CHAUCER.

An introduction to Middle English grammar, pronunciation and scansion, and a study of *Troilus and Criseide* and the best of the *Canterbury Tales*, followed by a more rapid reading of at least one of Chaucer's earlier works, such as *The Book of the Duchess*, *The House of Fame*, *The Parliament of Fowls*, and *The Legend of Good Women*. Prerequisite: consent of the instructor. Full course, Semester 2.

212. SHAKESPEARE.

Approximately twenty plays are read through the year as a basis for a study of Shakespeare's development as a dramatist.

Semester 1 will cover Shakespeare's early plays, the histories and the mature comedies, ending with Hamlet. Semester 2 will emphasize the later tragedies as well as the romances.

Full course, Semesters 1, 2. Ms. Carr.

215. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA.

A seminar devoted to the intensive study of a small group of dramatists or a special dramatic problem of the Renaissance. Topic for 1976-77: Marlowe and Jacobean Tragedy. Prerequisite: consent of the instructor. Offered at the discretion of the department.

Full course, Semester 2.

Mr. Dorenkamp.

216. THE RENAISSANCE IN ENGLAND. Not offered, 1976-77.

From Thomas More's book on nowhere-at-all (called *Utopia*) to Shakespeare's witches who argue, in *Macbeth*, that "Fair is foul and foul is fair," to the metaphysical poetry of John Donne, this course will examine equivocation as the mode of thought and response in the sixteenth century, a century torn by the Protestant discoveries of Copernicus; the economic rise of capitalism; the wars with Spain (and the Spanish Armada); and the quiet political revolution — from monarchy to government by Parliament. Offered at the discretion of the department. Full course.

Mr. Kinney.

220. SEMINAR: SEVENTEENTH CENTURY.

Not offered, 1976-77.

A study of selected Metaphysical, Cavalier, and early Neo-Classical poets (including John Donne, George Herbert, Henry Vaughan, Richard Crashaw, Ben Jonson, Robert Herrick, Andrew Marvell, John Wilmot, Earl of Rochester, and John Dryden), and of major writers of seventeenth-century prose (including Sir Francis Bacon, Thomas Hobbes, Izaak Walton, Robert Burton, Sir Thomas Browne, John Evelyn, Samuel Pepys, John Locke, and John Dryden). Offered in alternate years. Prerequisite: consent of the instructor.
Full course, Semester 1.

222. SEMINAR: MILTON.

Not offered, 1976-77.

An intensive reading of Milton's poems and selected prose. Offered in alternate years. Prerequisite: consent of the instructor.

Full course. Semester 2.

Mr. Carter.

224. SEMINAR: THE RADICAL MODE OF RESTORATION COMEDY.

An investigation of the radical aspects of Restoration Comedy, including, among other things, its exclusiveness, its antiestablishment posture, and its preoccupation with sexuality and perversion. Parallels will be drawn to some other radical dramatic movements, such as the Theatre of Cruelty and the

contemporary Black theatre. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course, Semester 2. Mr. Abraham.

226. SEMINAR: STUDIES IN EIGHTEENTH CENTURY LITERATURE.

The first seven weeks will be focused primarily on the Augustans - the poetry of Pope; Swift's poems, essays and Gulliver's Travels; and Gay's Beggar's Opera. As these authors tend to be intensely topical and satirical, substantial effort will be made to relate them and their writings to the literature, life, and thought of the times. The rest of the term will deal with the Age of Johnson, Although our primary emphasis will be on James Boswell and Samuel Johnson, we will also deal with a number of eighteenth-century poets (to be selected from the following: James Thomson, William Collins, Thomas Gray, Christopher Smart, Oliver Goldsmith, Thomas Chatterton, William Cowper, George Crabbe) and with at least two eighteenth-century dramatists - Goldsmith and Sheridan. The course will be designed flexibly enough to permit students to investigate other contemporary figures in related arts or disciplines (e.g., Bernard Mandeville, David Hume, Edward Gibbon, Sir Joshua Reynolds, Edward Burke). Offered in alternate years. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Carter.

236. BRITISH ROMANTIC LITERATURE.

Not offered, 1976-77.

To define Romanticism, the course will focus on selected writings of English Romantic poets and prose-writers. Relevant works will be studied in depth, but attention will also be paid to biographical, sociological, and philosophical contexts. An effort will be made to correlate British Romanticism with other romanticisms — of nineteenth-century America and continental Europe, of earlier times and of the present. Offered in alternate years.

Full course.

Mr. Blinderman.

238. SEMINAR: WILLIAM BLAKE.

An analysis of the poems and of a selection of the Prophetic Books of Blake, including some consideration of Blake as graphic artist. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course. Semester 2.

Mr. Carter.

239. SEMINAR: AMERICAN LITERARY RENAISSANCE.

Not offered, 1976-77.

Characteristic writings by Emerson, Thoreau, Hawthorne, Poe, Melville, and Whitman are juxtaposed dialectically to explore the uniqueness of their individual and collective accomplishments and their larger implications in the context of American culture. Field trip to Concord and possibly elsewhere. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course.

Mr. Beard.

242. VICTORIAN LITERATURE.

A study of Victorian values and major intellectual movements as expressed in literature. The first semester concentrates on the idea of Duty (transcendental, utilitarian, Catholic, Darwinian and Dickensian); the second on the idea of Decadence (from the Pre-Raphaelites to Beardsley). Offered in alternate years.

Full course, Semesters 1, 2. Mr. Blinderman.

244. SEMINAR: ROMANTIC AND VICTORIAN GOTHIC.

Not offered, 1976-77.

The seminar will call forth the Gothic spirit from its incarnations in architecture, painting, and literature — graveyard poetry, Gothic novels, *Frankenstein*. Films and field trip.

Full course. Mr. Blinderman.

245. SEMINAR: DARWINISM.

This seminar, of an interdisciplinary nature, is devoted to the study of original and research materials elucidating the scientific, philosophical, religious, and social dimensions of Darwinism. The course examines chiefly the survival of the fittest Darwinian ideas in English and American literature. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Blinderman.

247. SEMINAR: DICKENS.

This seminar will consider Dickens as a humorist, an artist, and a social critic in the light of his time and its relevance to ours. Prerequisite: consent of the instructor. Offered at the discretion of the department.

Full course, Semester 2.

Mr. Blinderman.

249. SEMINAR: TWAIN, HOWELLS, AND JAMES.

Not offered, 1976-77.

The course will explore the artistic assumptions and impulses underlying American Realism through selected novels and criticism of America's three greatest realistic novelists. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course.

Mr. Elliott.

251. THE CIVIL WAR IN LITERATURE, 1860-1960.

This course will explore and evaluate the effects of the Civil War on selected American authors. The course will include some background on economic, political, and historical events related to the Civil War and examine how different authors come to terms with American conditions like slavery, industrialization, the Myth of the South, etc. Offered at the discretion of the department.

Full course, Modular Term.

Mr. Elliott.

252. SEMINAR: JOSEPH CONRAD.

A study of his work. Offered at the discretion of the department.

Prerequisite: consent of the instructor.

Half course, Modular Term.

Mr. Sultan.

254. SEMINAR: REALISM AND NATURALISM IN AMERICAN FICTION.

This course will explore the artistic assumptions underlying American Realism and its off-spring, American Naturalism. The focus will be on the techniques and themes used by such writers as Twain, Howells, James, Crane, Norris, London, and Dreiser. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Elliott.

257. SEMINAR: THE IRISH LITERARY MOVEMENT.

A course in the inception, development, and effect of the literary movement during the end of the last century and the first decades of this one that created an Irish literature in English. Writers studied include Yeats, Joyce, Synge, and O'Casey. The cultural, historical, and political backgrounds of Anglo-Irish literature are also studied. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course, Semester 1.

258. LAWRENCE AND JOYCE.

This course is an intensive introduction to the art of the two writers. Poems, short stories, and novels by both will be studied. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Sultan.

259. MODERNIST POETRY. Not offered, 1976-77.

A survey, with special attention to the genesis and development of modernism and to tendencies during the last few years toward a dominant new movement in English poetry. The works of almost fifty poets, ranging in time from Emily Dickinson to Robert Creeley, are considered. Offered in alternate years. Full course.

Mr. Sultan.

261. SEMINAR: W. B. YEATS. Not offered, 1976-77.

Intensive study of the accomplishment of Yeats. The principal concern will be his poetry, but attention will be given to his thought, his dramatic and his other writings, and his cultural role in Ireland and the world during his time. Offered at the discretion of the department. Prerequisite: one of the following: Introduction to Poetry, The Irish Literary Movement, T. S. Eliot; also, consent of the instructor.

Full course.

Mr. Sultan.

264. SEMINAR: T.S. ELIOT. Not offered, 1976-77.

An intensive study of the major poems, plays, and critical essays of T. S. Eliot. Offered at the discretion of the department.

Prerequisite: consent of the instructor.

Full course.

Ms. Hilsinger.

266. SEMINAR: VIRGINIA WOOLF. Not offered, 1976-77.

An intensive study of Mrs. Woolf's nine novels, her short stories, her major essays, and her diary. The course will emphasize the artistic process as well as the vision of Mrs. Woolf's work, and it will consider such collateral issues as Mrs. Woolf's critical stance and her feminism. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course.

Ms. Hilsinger.

267. SEMINAR: SPECIAL STUDIES IN TWENTIETH-CENTURY AMERICAN LITERATURE: HEMINGWAY AND FAULKNER.

A seminar devoted to the intensive study of a twentieth-century writer or small group of writers — Hemingway and Faulkner in 1976-77. Offered at the discretion of the department.

Prerequisite: consent of the instructor.

Full course, Semester 1. Mr. Beard.

268. SEMINAR: EUGENE O'NEILL. Not offered, 1976-77.

Intensive study of about twenty of O'Neill's plays, from the early one-acters to The Iceman Cometh, Long Day's Journey into Night, and A Moon for the Misbegotten, with some attention to ideas, persons, and theatrical movements affecting O'Neill. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course. Mr. Beard.

273. SEMINAR: F. SCOTT FITZGERALD AND THE TWENTIES.

Using Fitzgerald's life and writings as a convenient and indicative matrix, the course will explore the Twenties as a period rich in avant garde creativity, significantly assessing and re-defining traditional literary values and forms. Writers other than Fitzgerald to be considered include Gertrude Stein, Sherwood Anderson, Ernest Hemingway, Sinclair Lewis, William Faulkner, H. L. Mencken, Ezra Pound, T. S. Eliot, E. E. Cummings, William Carlos Williams, Wallace Stevens, and Eugene O'Neill. Some attention will be given to Jazz and its chief classical proponent George Gershwin, and to prominent artists from the popular John Held, Jr. to Picasso. Magazines such as the *The Smart Set* and *The Dial* will be examined and a visit to the great Dial Collection at the Worcester Art Museum scheduled. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Beard.

278. SPECIAL STUDIES IN TWENTIETH-CENTURY LITERATURE.

Tutorial with individual students who will evolve and develop their own projects in English literature or comparative literature (English and French, Spanish, German, or English and more than one of the others). Projects need not be critical papers. Translation, studies in the sociology of literature, the editing of private papers, and other projects may be undertaken. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Half course, Modular Term.

279. THE LITERATURE OF DECADENCE.

Not offered, 1976-77.

Mr. Sultan.

(Previously listed as English 296.) Readings will include Sade, Gautier, Balzac, Poe, Baudelaire, Mallarme, Huysmans, Pater, Wilde, and Beardsley; as well as some contemporary writers: Borges, Kosinski, Barthelme, and Calvino. The course (while designedly heuristic) will develop a theory of a "decadent" aesthetic, epistemology, and social ethic; and it will provide a multi-focal, inter-disciplinary context in which to view emergent nineteenth and current twentieth century sensibilities. While examining both dominant and counter-cultural movements, the Decadence course will emphasize life and literary styles as indices to cultural expression and self-definition. A high degree of student participation will be expected.

Full course.

Mr. Parsons.

280. HISTORY OF THE ENGLISH LANGUAGE, I & II.

The first semester (I) deals with the development of the phonology and lexicon of English, viewed as a dynamic series of systems. The course also describes the homeland, language, and culture of the Proto-Indo-Europeans as background for a treatment of the structural relationships between English and other languages of the Indo-European family. The second semester (II) concentrates on the development of the grammar of English, also treated dynamically and systemically. The course includes an analysis of the establishment of Standard British English, the doctrine of correctness, and the growth of Modern American English in its sociocultural setting. Prerequisite: consent of the instructor. (M.A. candidates are required to take either the second half of this course or English 284.) Only the second half of this course will be offered in 1976-77. Full course, Semesters 1, 2. Mr. Macris.

282. SEMINAR: OLD ENGLISH. Not offered, 1976-77.

An introduction to Old English language and literature. The works read include King Alfred's preface to Pope Gregory's Pastoral Care and selections from the West Saxon Gospels, from the Old English translation of the Heptateuch, from Aelfric's Colloquy, from the Anglo-Saxon Chronicle, and from the Old English translation of Bede's Historia Ecclesiastica Gentis Anglorum. Offered at the discretion of the department. Prerequisite: consent of the instructor.
Full course.

Mr. Macris.

284. SEMINAR: MODERN AMERICAN ENGLISH.

This seminar analyzes the grammatical structure of Modern American English. It concentrates on an evaluation system for handling spoken and written English and the application of this system to problems of current English usage. The relevance of linguistic theory and methodology of the teaching of English receives special attention. Offered at the discretion of the department. (M.A. candidates are required to take either this course or the second half of English 280.) Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Macris.

Linguistics 285. SEMANTICS.

Refer to course description under Linguistics.

Mr. Macris.

286. SEMINAR: LINGUISTIC APPROACHES TO LITERATURE. Not offered, 1976-77.

A study of what modern linguistics has to offer in the analysis and criticism of literature, with special attention to the contributions of the generative-transformational, tagmemic, and parametric approaches. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course. Mr. Macris.

Linguistics 287. INTRODUCTION TO LINGUISTICS.

Refer to course description under Linguistics. Mr. Macris.

Linguistics 288, COMPARATIVE AND HISTORICAL LINGUISTICS. Not offered, 1976-77.

Refer to course description under Linguistics. Mr. Macris.

289. THE ART OF BIOGRAPHY.

This course will be a study and appreciation of biography as a literary form, with attention paid to its historical development. its relationship to general history, its varieties ("literary" as distinct from "political", for instance), and the problems confronting a practitioner of the biographical art. As regards the latter, consideration will be given to theories of personality and perception, the nature and testing (for truth) of evidence, and questions of ethics and literary style which are peculiar to lifewriting. The instructor will draw upon his own experience of biographical writing for illustrative or exemplifying material and may call in one or two others, for this purpose. Limited. Full course, Modular Term. Mr. Davis.

291. THE PROTESTING VOICE AND THE INDIGNANT EYE: SATIRE IN LITERATURE AND THE VISUAL ARTS.

Not offered, 1976-77.

(Previously listed as English 292.) A survey of the range and vitality of the genre of SATIRE in literature from Aristophanes to the present and in the visual arts from the fifteenth century to Picasso, Offered at the discretion of the department. Prerequisite: English 10 or at least one semester of study in literature taught in any department. Mr. Carter. Full course.

292. INTERNSHIP TEACHING.

Refer to course description under Education 272. Full course, Semester 2. Mr. Ulerich, Ms. Carr.

293. WORKSHOP IN SECONDARY ENGLISH CURRICULUM.

(Education 293) A study of new approaches to English curriculum and preparation for practice teaching (visiting schools, observing classes, some apprentice teaching and tutoring, and work sessions with cooperating teachers). Full course, Semester 1. Mr. Ulerich.

294. MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH.

Review and application of specific materials and techniques in the teaching of composition and poetry. A seminar involving student interns, specialists, and experienced teachers. Full course, Semester 2. Mr. Ulerich.

295. TEACHING ENGLISH AS A SECOND LANGUAGE.

This course covers the principles and practice of second language teaching, with emphasis on the application of modern linguistics to the teaching of English as a second language. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Macris.

296. WRITING WORKSHOP FOR TEACHERS OF ENGLISH.

A study of writing in the classroom from the perspective of both students and teachers. While class members work on the development of their own writing skills, they will also be required to design and teach at least one writing lesson. Class discussion and assigned readings will focus on the teaching of writing in the classroom. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course, Semester 1. Ms. Carr.

297. SEMINAR: VARIETIES OF LITERARY CRITICISM.

Using a small number of model literary works, this course explores the theory and practice of alternative critical perspectives and schools of criticism. Candidates for Honors in English are encouraged to elect either this seminar or English 298., no later than their junior year. Prerequisite: consent of the instructor.

Full course, Semester 2. Mr. Sultan.

298. SEMINAR: THE MYTHOPOETIC MODE.

This seminar explores the vision and epistemology of mythopoetic literature. Works read and discussed include Shakespeare's Henriad, Milton's Paradise Lost, Bronte's Wuthering Heights, Melville's Moby Dick, and a work of the Modern Period. Candidates for Honors in English are encouraged to elect either this seminar or English 297., in their junior year. Prerequisite: consent of the instructor. Full course, Semester 2. Ms. Hilsinger.

299. HONORS IN ENGLISH: SENIOR YEAR.

Full course. Staff

300. INTRODUCTION TO GRADUATE STUDY IN ENGLISH.

This course examines certain fundamental aspects of literary theory and considers the nature of and relationships among the three principal areas in the discipline — bibliography and textual analysis, literary history, and literary criticism. Prerequisite: consent of the instructor.

Full course, Semester 2. Mr. Sultan.

349. THESIS WORKSHOP.

This seminar involves the doing — though not necessarily the completion — of a scholarly-critical project in literature on a professional level. The entire process from initial formulation to final presentation will be considered in the context of the specific individual projects of students in the group. A prerequisite is active commitment to and involvement in such a project. While intended primarily for graduate students in English, undergraduates with appropriate projects — honors theses, for example - from English and allied disciplines may be accepted by permission. Full course, Semester 2.

Mr. Beard.

350. MASTER'S THESIS.

Prerequisite: consent of chairman or Director of Graduate Studies.

Full course. Staff.

351. READING COURSE FOR MASTER'S THESIS.

Normally, only students writing theses in linguistics may take English 351. Prerequisite: consent of chairman or Director of Graduate Studies.

Full course. Staff.

388. GRADUATE DIRECTED READINGS.

May be elected to pursue in depth a topic other than that chosen for the Master's thesis. Prerequisite: consent of the instructor and of the chairman or the Director of Graduate Studies. Staff. Variable credit.

COMPARATIVE LITERATURE

A student may count any of the courses listed under Comparative Literature toward the English major. In all cases, such electives must be approved by the student's adviser in the English Department as being meaningfully related to the student's overall program of English studies. The four core courses of the Comparative Literature Program — Comparative Literature 190, 230, 240, 251 — are especially recommended.

LINGUISTICS

Linguistics 115. MAN AND LANGUAGE.

Refer to course description under Linguistics.
Staff.

Linguistics 260. LINGUISTICS AND LANGUAGE LEARNING.

Refer to course description under Linguistics.

Mr. Reid.

THEATRE ART

The following courses in Theatre Art may be taken for credit toward the English major.

Theatre Art 10. INTRODUCTION TO DRAMA.

Refer to course description under Theatre Art.

Mr. Schroeder.

Theatre Art 185. TENNESSEE WILLIAMS.

Refer to course description under Theatre Art. Mr. Schroeder.

Theatre Art 281. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA. Not offered, 1976-77.

Refer to course description under Theatre Art.

Mr. Schroeder.

Theatre Art 286. SEMINAR: IBSEN.

Refer to course description under Theatre Art.
Mr. Schroeder.

Environmental Affairs

PARTICIPATING FACULTY

Harry E. Schwarz, B.C.E., Program Director, Visiting Professor of Environmental Affairs and Adjunct in Geography

Leonard Berry, Ph.D., Professor of Geography; Co-director, International Development and Social Change Program; Dean of the Graduate School, Coordinator of Research

Saul B. Cohen, Ph.D., Professor of Geography; Director, Graduate School of Geography; Adjunct Professor of Government and International Relations

Roger E. Kasperson, Ph.D., Professor of Government and Geography

Robert W. Kates, Ph.D., University Professor, Professor of Geography

John Reynolds, Ph.D., Professor of Microbiology Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology; Chairman, Department of Psychology Christoph Hohenemser, Ph.D., Associate Professor of Physics Laurence A. Lewis, Ph.D., Associate Professor of Geography Frank Puffer, Ph.D., Associate Professor of Economics, Dean of Academic Affairs

Stephen L. Feldman, Ph.D., Assistant Professor of Geography Richard Howard, Ph.D., Assistant Professor of Geography, Adjunct in Biology

Alan A. Jones, Ph.D., Assistant Professor of Chemistry

PROGRAM

This program was developed in response to the challenge of the period of change which is being experienced in relations between people and their environment. New relations require new concepts and reevaluated views of existing ones. Thus, a new field of professional endeavor is evolving to deal with people and their environment. The purpose of this program is to train students for entry-level professional positions in the expanding fields of environmental planning, management, and education. The terminal point of the program is the attainment of the degree of Master of Arts in Environmental Affairs. The baccalaureate degree is incidental to the program, serving as the proof of attainment in a traditional discipline.

Within the program, concentrations are offered in environmental planning on the regional or urban level for land, water, and air, in environmental monitoring and environmental education. The program is flexible in order to accommodate changes in the field and to remain relevant in this dynamic world.

The Environmental Affairs Program offers a student substantive knowledge in an academic discipline, a group of undergraduate courses covering the concepts and tools necessary for working on environmental problems, an internship in an environmental agency and a one-year graduate program involving advanced courses in specialized areas, seminars, and a practicum in which the student develops a terminal project or thesis. Both academic and practical experiences make up the Environmental Affairs program of study.

A central feature of the program is the relationship between student and adviser. By limiting the number of students admitted, close student-adviser relationships are maintained. In this way, the program can be tailored to the individual student's needs through the selection of undergraduate courses which develop a student's disciplinary training while providing a strong foundation on environmental issues.

Where listed courses at Clark do not meet a student's full needs, consortium courses, special projects, and directed readings provide the necessary additional training. A full summer internship is recommended immediately after completion of the baccalaureate degree and before the commencement of graduate work, but the program permits the internship at other periods, such as during the senior year or within the graduate-training span. In the two-year undergraduate part of the program, students are expected to take courses in a chosen discipline and environmental program-oriented courses to complete their baccalaureate requirements. Ten courses are required for graduate credit.

ADMISSION

Because the program is a three-year combined B.A./M.A. program, students normally are admitted at the end of their sophomore or the beginning of their junior year. A small number of graduate students are admitted to the program if their admission adds to the student body a range of backgrounds not available from within. However, those entering the program with a bachelor's degree normally require at least one and one-half years of study to complete the necessary course work.

In order to maintain a close student-faculty relationship, admission to the program is limited to approximately 15 students per year. Selection of persons for admission is based upon an evaluation of the applicant's previous academic record and work experience, plus an interview with the admissions committee. In those cases where the interview requirement

would impose an extreme hardship upon the applicant, a mutually satisfactory alternative may be possible.

Students applying for admission at the junior level are expected to have a cumulative average of about B- or higher, and to have satisfactorily completed at least four courses in the sciences of which at least one each should be in biology and the physical and social sciences. Individual exceptions are possible if competence can be demonstrated in an alternative way. Seniors may be accepted on an individual basis with additional requirements based on the program objective and past experience of the student. Deficiencies may be made up by summer courses prior to entering the program or for one course only by concurrent registration in the junior year.

Since admission to the program is highly restricted, interested students are urged to apply as early as possible to the program director for a determination of their eligibility.

UNDERGRADUATE PROGRAM

The undergraduate portion of the Environmental Affairs Program emphasizes the acquisition of the tools and concepts students need as a base from which to develop their knowledge and skills in environmental affairs. Two options are available to students in their undergraduate years. One, the preferred, is to satisfy a departmental major and an environmental minor and so receive a Bachelor of Arts degree in a traditional discipline. The other is to receive a Bachelor of Arts with a concentration in Environmental Affairs and in a related field such as Biology; Chemistry; Geography; Government; Management; Psychology; Sociology; or Science, Technology and Society. The specific requirements for each of these options are:

(Leading to a Bachelor of Arts degree in any discipline with an environmental minor) Fulfillment of requirements of the major in an established discipline and five course credits in Environmental Affairs, including the following:

Number	Title	Credit	
EA 201	Applications of Systems Analysis to		
	Environmental Problems	1/2	
EA 202	The Biosphere	1/2	
EA 203	Man's Perception of His Environment	1/2	
EA 204	Environmental Plans and Programs	1/2	
Individual course substitutions may be made with the			
approval of the program director. During the senior year,			
students must take at least 2 courses accepted on the			
graduate level, if they plan to complete graduate work in one			
year.			

Option 2

(Leading to a Bachelor of Arts degree with concentration in Environmental Affairs) A program jointly designed by the students must take at least two courses accepted on the Graduate Board. This program must include EA 201, 202, 203, 204 (four 1/2 courses), EA 250 (one double strength course); two other EA courses, eight course credits in one field such as Biology; Chemistry; Geography; Government; Management; Psychology; Sociology; or Science, Technology and Society that provide basic skills or are related to environmental problems, and two courses in fields other than the area of concentration that are related to the environment. Individual course substitutions may be made with the approval of the program director. During the senior year, students must take at least two courses acceptable on the graduate level if they plan to complete graduate work in one year.

GRADUATE PROGRAM

Admission: Students that have been enrolled in the program as undergraduates will continue in the graduate phase if they meet the standards of the Graduate School and pass a review of their progress by the Environmental Affairs Program Admissions Committee. A student entering the program with a

bachelor's degree is accepted only if the Environmental Affairs Admissions Committee determines not only that the student is capable of doing the work, but also that the student's admission will further the goals of the program.

Internship: An internship in an agency or firm of at least two months duration in which the intern works on an environmental problem or equivalent practical experience is required. The internship will normally be accomplished during the summer following the baccalaureate. Students will be assigned to internships or can find a position by themselves if such a position is approved by the director of the program.

Coursework: A course program of 10 courses is required, eight courses if the student took two courses acceptable at graduate level in the senior year. This course program will be agreed upon jointly by the student and adviser and will be directed towards a specific focus, such as water or air pollution, planning, monitoring, or any other specific topic. One course credit for research or practical work (EA 330.) on the thesis or terminal project and one for writing the thesis or project (EA 350.) are a required part of the course program. Students entering the program at the graduate level may be required to take additional courses as needed to fill gaps in their undergraduate preparation.

Teaching and Research Prerequisite: Some teaching and research at Clark is prerequisite to the M.A. degree. Every effort is made to provide on and off campus training activity at the teaching and research level.

Master's Project: This can be a terminal project, i.e., the solution to a specific problem or a theis on a research topic. In either case, it must relate to the student's specific course focus, and its topic and outline must be approved by the director of the

Financial Aid: Several tuition remission scholarships are available for qualified applicants.

COURSES

101. INTRODUCTORY CASE STUDIES.

Refer to course description under Science, Technology and Society, 101.

201. APPLICATION OF SYSTEMS ANALYSES TO **ENVIRONMENTAL PROBLEMS.**

This course will discuss the fundamental concepts of system analyses and their application to environmental problems. Stress will be on the use, applicability, and limitations of this method in analyzing complex environmental systems and their physical. social, and economic aspects. Prerequisite: admission to Environmental Affairs Program or instructor's consent. Half course, first half, Semester 1. Mr. Schwarz.

202. THE BIOSPHERE.

Building on a foundation of general knowledge of physiology, genetics, taxonomy, and ecology, the course will provide a biological context and perspective for the analyses and assessment of man-made environmental hazards. Prerequisite: introductory course in biological science or concurrent registration in such course with instructor's consent. Half course, second half, Semester 1. Mr. Reynolds.

203. MAN'S PERCEPTION OF HIS ENVIRONMENT.

An introduction to the study of environmental behavior. Examining man's reactions to environmental changes and natural and man-made hazards. Half course, first half, Semester 2. Staff.

204. ENVIRONMENTAL PLANS AND PROGRAMS.

An overview of the planning process with special emphasis on plans and programs in the New England region. Plans and programs now current are examined and their logic and history discussed.

Half course, second half, Semester 2.

Mr. Schwarz.

205. READINGS IN ENVIRONMENTAL AFFAIRS.

Directed readings for undergraduates in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2.

Staff.

206. RESEARCH IN ENVIRONMENTAL AFFAIRS.

Special research projects for undergraduates in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2.

Staff.

210. ENVIRONMENTAL PROTECTION.

A free-wheeling discussion of pollution control in the real world, its legal, institutional, and political framework. Federal, state, and local laws and their scientific basis; agency practice and procedure; public litigation and private "citizen suits"; selecting theories and remedies, both civil and criminal; tactics and strategies; citizen "watchdog" groups; corporate and media responsibility; economy versus ecology; old tools, new tools, potential for change. Reading in multilithed materials with statutes, regulations, court documents, case decisions, news accounts, and journal articles. Informal student advocacy panels to assure balanced presentation of issues.
Full course, Semester 2.

231. SEMINAR: POLITICS AND THE ENVIRONMENT.

A state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or for advanced study. Topics include the concept of the public interest, public attitudes to the environment, regulatory agencies, decision-making theory, the role of Congress, etc. A major seminar presentation and substantive research paper will be required. Prerequisite: consent of the instructor. See also Geography 231.

Full course, Semester 1.

Mr. Kasperson.

250. PRACTICAL PROBLEMS IN ENVIRONMENTAL AFFAIRS.

This is a work-study course. The student will work four full (eight hour) days in an environmental agency in the Worcester-Boston area or spend equivalent time on a project at the University. Also, weekly seminars at the University will review and evaluate work experiences. Grades will be awarded on the basis of the student's accomplishment in internship posts and seminars. Does not substitute for required program internship. Prerequisite: consent of the instructor.

Double course, Modular Term.

Staff.

300. READINGS IN ENVIRONMENTAL AFFAIRS.

Directed readings for graduate students in an area of their choice. Consent of instructor required.

Variable credit. Semesters 1, 2, Staff.

301. RESEARCH IN ENVIRONMENTAL AFFAIRS.

Directed reading for graduate students in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2. Staff.

330. PRACTICUM IN ENVIRONMENTAL AFFAIRS.

Individuals or small groups of students will be working on real world problems. Emphasis in this studio course will be on practical problem solving.

Full course, Semesters 1, 2.

Mr. Schwarz.

350. THESIS IN ENVIRONMENTAL AFFAIRS.

Preparation of Master's Thesis or of Master's Terminal Project. Full course, Semesters 1, 2. Staff.

COURSES DIRECTLY CREDITABLE IN ENVIRONMENTAL AFFAIRS

For descriptions and details, please refer to course listing within the departments.

Geography 013. FIELD STUDIES OF ENVIRONMENTAL ISSUES.

Full course, Semester 1.

Mr. Kates.

Economics 123.4. SPECIAL PROBLEMS: ENVIRONMENT AND ENERGY.

Full course, Semester 2.

Mr. Shakow.

Chemistry 142. ENVIRONMENTAL CHEMISTRY.

Full course. Semester 1.

Mr. Jones.

Geography 150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

Full course, Semester 2.

Staff.

Geography 151. SPACE, LANDSCAPE, AND ENVIRONMENT IN AMERICA.

Full course, Semester 2.

Mr. Bowden.

Geography 157. THEORY OF RESOURCES.

Full course, Semester 1.

Mr. Feldman.

Geography 191. INTRODUCTION TO MAPMAKING AND CARTOGRAPHY.

Full course, Semester 1.

Mr. Chang.

Geography 200. ENVIRONMENTAL EDUCATION WORKSHOP.

Full course, Semester 1.

Mr. Knos, Mr. Halverson.

Geography 214. GEOMORPHOLOGY AND ENVIRONMENTAL MANAGEMENT.

Full course, Semester 2.

Mr. Prior.

Geography 221. APPLIED SURFACE WATER HYDROLOGY.

Full course, Semester 2.

Mr. Schwarz.

Biology 239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

Full course, Semester 2.

Mr. Reynolds.

Geography 257. SPATIAL ASPECTS OF RESOURCE UTILIZATION.

Full course, Semester 2.

Mr. Feldman.

Geography 275. CITIZEN PARTICIPATION.

Full course, Semester 2.

Mr. Kasperson.

Geography 347. SEMINAR IN SYSTEMS ANALYSIS.

Full course, Semester 1.

Mr. Schwarz, Mr. Howard.

Film Studies

(See Department of Visual and Performing Arts.)

Foreign Languages and Literatures

DEPARTMENT FACULTY

Walter Schatzberg, Ph.D., Professor of German, Dept. Chrm.
Raymond E. Barbera, Ph.D., Professor of Romance Languages
Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish
Kenneth Hughes, Ph.D., Associate Professor of German
Hartmut Kaiser, Ph.D., Associate Professor of Romance
J. Fannin King, M.A., Associate Professor of Romance
Languages

Michael K. Spingler, Ph.D., Associate Professor of French Paul F. Burke, Jr., Ph.D., Assistant Professor of Classics Dorothy Kaufmann McCall, Ph.D., Assistant Professor of French Jane Oyarzun, Ph.D., Visiting Assistant Professor of

Spanish

Irene Kriskijans, Ph.D., Lecturer in Russian Gale H. Nigrosh, M.A.T., Lecturer in French Catherine Q. Spingler, M.A., Lecturer in French

PROFESSORS EMERITI IN RESIDENCE

Karl J.R. Arndt, Ph.D., Professor of German, Emeritus J. Richard Reid, Ph.D., Professor of Romance Languages, Emeritus

UNDERGRADUATE PROGRAM

The Major in Foreign Languages and Literatures

The major in foreign languages and literatures concentrates particularly on the way in which nations may express the consciousness of their culture through literature and other arts. The interdisciplinary and humanistic spirit of the program encourages the student to relate studies in literature to other areas of the humanities and social sciences such as history, philosophy, fine arts, geography, psychology, and sociology in order to arrive at an understanding of the cultural traditions of other nations.

Requirements

1) No fewer than eight courses beyond the intermediate level in one or more foreign languages.

 A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with his faculty advisor.

 If the major program is concentrated in one language, a reading knowledge of a second language is recommended.

4) At least one course in linguistics is recommended.
The department does not require the student to follow a rigid sequence of courses. Yet, the nature of language study

rigid sequence of courses. Yet, the nature of language study clearly indicates a basic progression which the typical student might follow.

Essentially, departmental offerings for the foreign language major may be organized in the following groups:

- Skill-oriented courses including conversation, composition, translation (11, 12, 100's)
- Cross-cultural courses and courses focusing on literature and the fine arts including films and theatre (100's)
- Courses in literature which concentrate on particular themes, theories, problems, critical approaches (100's, 200's)
- Courses in major figures, literary history, the styles of particular historical periods, and surveys of literature. (100's, 200's)

These groupings are not mutually exclusive and, in the case of group two, some courses in film and theatre could be considered to share some of the goals of a conversation or composition course but on a more advanced level. Similarly, it

would not be possible to address oneself to the study of a style, say that of the Baroque, without pursuing questions of critical approaches and literary theory. However, the grouping is meant to assist the student by suggesting ways of organizing his/her progress within the major, beginning with the mastering of language skills and critical methods, and then proceeding to the application of those skills and methods to particular cultural and literary areas.

The Major in Comparative Literature

The major in Comparative Literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program which in turn reflects the broadest possible frame in which to pursue his/her study of literature.

Requirements

- No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
- Suggested sequence of core courses in Comparative Literature:
 - a) Ideally, the student should have taken Problems in Comparative Literature (C.L. 110) or Critical Approaches to Literature (C.L. 190) by the end of the sophomore year, although this recommendation does not preclude taking either at a later time.
 - b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (C.L. 230), Elements of Narrative (C.L. 240) or English Poetry (English 13). Again, in certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the adviser.
- c) While a student may wish to devote his/her senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar on Literary Theory and Practice (C.L. 251).
- 3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with her/his faculty adviser.

The Advisory System

Since the department believes that individual courses will assume their relevance only in the context of a total program which will have sufficient flexibility to take the student's intellectual biography into account, it emphasizes strongly the close association between student and faculty advisers. The basic role of the adviser is to work closely with the student to ensure that the program developed between them will enhance and reflect the student's scholarly growth.

Although all members of the department serve as faculty advisers, the following have been designated as advisers in the major areas of concentration offered by the department:

Comparative Literature: Mr. Schatzberg

French: Mr. Spingler German: Mr. Kaiser Spanish: Mr. D'Lugo

Students are encouraged to develop a foreign languages program involving two or more languages. To discuss this possibility as well as to plan career goals and options contact Mr. Schatzberg.

Study Abroad

Students of foreign languages and literatures may study abroad either for a summer, one semester, or an entire year. Through the University's affiliation with the Institute of European Studies, campuses in Vienna, Freiburg, Paris, Nantes, Madrid, Durham, and London are readily accessible to Clark students.

For further information and to explore possibilities, contact Mr. Schatzberg.

Study in Mexico

Through affiliations with the State University of Guadalajara and the Instituto Cultural Mexicano-Norteamericano (ICMN), Clark offers qualified students the opportunity to live and study for either one half or a full semester in Mexico. In both programs, students are housed with select Mexican families and pursue courses of study in diverse fields including: Spanish language, Mexican history, culture, anthropology, archaeology, literature, and art history.

- A) Modular Term at the Instituto Mexicano-Norteamericano (ICMN) A two-part modular program offering the student a one-week orientation period at Clark with mini-seminars in language, culture, history, and literature of Mexico. The second part of the program will be a five-week residency in Guadalajara, Mexico's second largest city and center of diverse cultural and historical importance where students will take one or two units of intensive study. Activities include optional side trips to nearby sites of interest. Application due no later than the beginning of Semester two. See Mr. D'Lugo.
- B) State University of Jalisco in Guadalajara. Semester Program. — A unique one-semester/or full-year study program. Students will be housed with select Mexican families and pursue a full academic program in the Faculty of Philosophy and Letters of the State University. All courses taught in Spanish. The student is fully integrated into campus life. All courses will be taught by Mexican faculty and are attended by Mexican students, with some qualified foreign students. High proficiency in Spanish is required. Prerequisite for application to the semester program is successful completion of the ICMN module in Guadalajara or sufficient prior experience living in a Spanish-speaking country. Deadline for application: the beginning of the semester prior to attendance at the University. Course offerings in history, literature, archaeology, art history, etc. See Mr. D'Lugo.

Language Dormitories

French and Spanish quads with native speakers in residence are available in the Carriage House. Interested students should notify the department secretary.

UNDERGRADUATE-GRADUATE PROGRAM: THE B.A./M.A. PROGRAM IN COMPARATIVE LITERATURE

The B.A./M.A. Program in Comparative Literature is a course of studies integrating the last two undergraduate years with the first year of graduate work. It permits and requires a careful planning and coordination of course work, independent study and research, and the preparation of a master's thesis over a three year period beginning with the junior year. The program, which is described in greater detail elsewhere in this *Bulletin*, is currently in its fourth year of operation. It involves as many as ten faculty members and 20 to 25 students who have a demonstrated interest in literature and literary criticism. For further information concerning the program's admission standards, requirements, methodology, and goals, contact Mr. Barbera or Mr. Schatzberg.

DEPARTMENT COURSES

- A. French
- B. German
- C. Hebrew
- D. Russian
- E. Spanish

A. FRENCH

French 11. ELEMENTARY.

For beginners with no background in the language. Grounding in all four language skills (hearing, speaking, reading, writing) as preparations for subsequent courses conducted in the language. Individual work in the language laboratory. Indivisible course. Full course, Semesters 1, 2.

Ms. Spingler.

French 11. ELEMENTARY (ADVANCED SECTION).

A fresh start for students with some previous exposure to the language, but who are not yet prepared to enter the intermediate course. Designed to impart an active knowledge of French, through grammar study and oral practice, in class and in the language laboratory with integrated short readings in French prose, poetry and theatre. Indivisible course. Full course, Semesters 1, 2. Ms. Nigrosh.

French 12.INTERMEDIATE.

Review of French grammar. Reading and discussion of provocative works in journalistic and literary prose, as well as poetry and theatre to acquaint students with outstanding personalities and ideas in French literature. Conducted in French. Individual work in the language laboratory. Prerequisite: French 11 or equivalent background in the language. Full course, Semester 1.

Ms. Spingler, Ms. Nigrosh.

French 120. JEUX DE MOTS: WORD PLAY IN FRENCH.

For students with intermediate-level skills in the language who want to develop vocabulary and grammar through creative writing. Assignments will focus on particular aspects of French syntax and style using various short texts — prose and poetry — as points of departure. Topics will include sound symbolism, syntax as metaphor, and the problem of translation. Conducted primarily in French. Weekly dictation exercises in the language lab. Limited to 15 students. Prerequisite: 1 semester of second-year French or its equivalent.

Full course, Semester 2.

Ms. Nigrosh.

French 127. SPEAKING FRENCH: INTERMEDIATE LEVEL.

The goal of the course is to increase the oral fluency of the student at the intermediate level. Some class discussions will focus on examples of French culture in our own environment.

Trips around Worcester and Boston to see films and visit museums will provide the stimuli for these discussions. Other topics of conversation will be based on group interest.

Prerequisite: French 12.

Full course, Semester 2.

Full course, Semester 1.

Staff.

Mr. King.

French 129. SKILLS AND TECHNIQUES IN READING FRENCH.

This course provides a transition from speaking to reading with ease and understanding for the student who has the fundamentals of the French language. Starting with easy contemporary French (a novel of Georges Simenon), the class progresses through a brief experience with French poetry to the somewhat more difficult French of Jean-Paul Sartre in two of his plays (Huis-clos and Les Mouches). A textbook with the same title as this course helps increase vocabulary understanding of French syntax and idiomatic structure and other reading skills. Close attention is given in class to the precise meaning of words, phrases, verb tenses, etc. Prerequisite: French 12., or equivalent skill in the language to be determined by consultation with professors.

French 130. READINGS IN FRENCH LITERATURE.

Logical in sequence to French 129, continued close attention to

vocabulary, idioms, sentence structure, exact meaning of phrases and sentences. Increased attention to artistic effects and stylistic values. Readings: Simenon, Collected short stories; Anouilh, Antigone; and Contes Modernes, a collection of twentieth century works. Prerequisite: French 129., 131., or equivalent.

Full course, Semester 2.

Mr. King.

French 131. READINGS IN FRENCH LITERATURE: DRAMA AND POETRY.

The course is intended for students at the third-year level who wish to enhance their skills in reading, writing, and understanding French through a study of provocative modern French literary works chosen for their intrinsic interest and for their linguistic accessibility. Emphasis on literary analysis; class discussions in French. Readings will include plays by Anouilh, Sartre, and Beckett; selected poetry of Baudelaire. Rimbaud, and Verlaine. Prerequisite: the second semester of French 12., or consent of the instructor. Full course, Semester 1. Ms. McCall.

French 132. READINGS IN FRENCH LITERATURE: NARRATIVE PROSE.

Primarily intended as a sequel to French 131., (see description above). Readings will include Gide, L'Immoraliste: Radiquet, Le Diable au corps : Colette, Le Blé en herbe : Simone de Beauvoir, La Femme rompue: Sartre, L'Enfance d'un chef: Camus, L'Etranger. Prerequisite: French 129 or higher level course, or consent of the instructor.

Full course, Semester 2.

Ms. McCall.

French 137. ORAL AND WRITTEN FRENCH.

The aim of this third-year course is to perfect skills in communication both oral and written. In this semester of a twosemester course, particular attention is given to the sounds of French and to its rhythm and melodic patterns. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the Language Laboratory. Prerequisite: Grade of B- or higher in French 12., or equivalent skill in the language, to be determined by a placement test. Admission subject to consent of instructor.

Full course, Semester 1.

Mr. King.

French 138. ORAL AND WRITTEN FRENCH.

The aim of this third-year-level course is to perfect skills in communication both oral and written. This is the second semester of French 137. In this semester, increasing attention is given to grammatical patterns and written French and fluency in the spoken language. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the Language Laboratory. Prerequisite: Grade of B- or higher in French 12., or equivalent skill in the language, to be determined by a placement test. Admission subject to consent of instructor. Full course, Semester 2. Mr. King.

French 140. ASPECTS AND PROBLEMS OF CONTEMPORARY FRANCE.

A cross-cultural course concentrating on the evolution in the twentieth century of traditional French values, myths, and social institutions. The course will recognize the critical stance assumed by such French critics of France as Jean-Francois Revel in his works, En France and Ni Marx Ni Jésus. Particular attention will be paid to the historical and social background of the students and workers protest and strike known as the Events of May 1968. Additional source material will consist of films, novels, and periodicals. Conducted in French. Prerequisite: French 130., or higher level course or consent of the instructor. Full course, Semester 2. Mr. Spingler.

French 160. THE FILMS OF JEAN RENOIR.

Analysis of the cinematic language and aesthetic of Jean Renoir with particular attention to the way in which they reflect French traditions, mental structures, and social values. Readings will include film scripts, film criticism, and source texts. Attendance at approximately 8-10 films will be required. Conducted in French. Prerequisite: French 130., or consent of the instructor. Full course, Semester 1. Mr. Spingler.

French 165. FRENCH PLAY PRODUCTION.

A course designed to provide direct experience of the theatrical synthesis within which the play and the actor operate. The course will concentrate on one playwright, studying him in terms of all the problems peculiar to the staging of his plays — sets. props, costumes, acting styles, gestures, and blocking. The practical aspects will be synthesized with academic research into the dramaturgy, themes, social context, and style of the author's period. Possible playwrights to be studied: Molière. Marivaux, Ionesco, Beckett. For the fall of 1976, the playwright will be Molière. Prerequisite: speaking knowledge of French and consent of the instructor. Given in French. Full course, Semester 1. Mr. Spingler.

French 170. ESSAYS OF THE SELF.

A study of modes of subjectivity in the French tradition through seminal works of self-analysis and autobiography. We will explore the relationships between self-expression, self-creation. and philosophy. Texts will include Montaigne. Essais: Pascal. Pensées; Rousseau, Les Confessions; Baudelaire, Mon coeur mis à nu ; Colette, La Naissance du jour ; Sartre, Les Mots. Students will be asked to keep a journal of their readings. Prerequisite: one third-year-level course, or permission of the instructor.

Full course, Semester 2.

Ms. McCall.

French 175. SARTRE AND CAMUS. Not offered, 1976-77.

A study of the major literary works of Sartre and Camus in the context of each writer's philosophical and political theories. Full course. Ms. McCall.

French 230. IMAGES OF WOMEN IN THE FRENCH NOVEL: MEN CREATING WOMEN. Not offered, 1976-77.

Through the historical examination of a tradition which has been central in shaping our notions of women and of love, we will try to come to some understanding of the roles of women in the male imagination, and how these roles have affected women's fantasies and realities. Readings will include Tristan et Iseut, La Nouvelle Héloise, Les Liaisons Dangereuses, Madame Bovary, Une Vie, Nadja, L'Histoire d'O, with reference throughout the course to relevant historical and theoretical texts. Ms. McCall. Full course.

French 232. IMAGES OF WOMEN IN THE FRENCH NOVEL: WOMEN CREATING WOMAN. Not offered, 1976-77.

Through the historical study of women writers in France, we will examine the notion of feminine sensibility and try to understand how each writer's sense of herself as a woman affects her writing. Readings will include works by and about Mme. de Lafayette, Mme. de Staël, George Sand, Colette, Simone de Beauvoir, Christiane Rochefort, Monique Wittig. Full course. Ms. McCall.

French 241. GENERAL VIEW OF FRENCH LITERATURE, CHARLEMAGNE TO LOUIS XIV.

From the Middle Ages through the Age of Louis XIV. An interpretation of the main currents of French literature from the *Chanson de Roland* through the period of the great classicists of the seventeenth century. Each period is studied concentrating on a limited number of authors of schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French.

Full course, Semester 1.

Mr. King.

French 242. GENERAL VIEW OF FRENCH LITERATURE, VOLTAIRE TO PROUST.

From the beginning of the Age of Enlightenment to the Early Twentieth Century. An interpretation of the main currents of French literature between the age of Louis XIV and the First World War. Each period is studied concentrating on a limited number of authors or schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Prerequisite: Grade of B- or higher in a third-year course.

Full course, Semester 2.

Mr. King.

French 253. FRENCH POETRY FROM CHENIER TO VERLAINE. Not offered. 1976-77.

From the rebirth of lyric verse at the time of the French Revolution through the romantic outburst, the Parnassian perfection, to Baudelaire and his followers in the symbolist movement. Poets to be emphasized: Chénier, Hugo, Vigny, Hérédia, Baudelaire, Verlaine. Admission subject to the consent of the instructor.

Full course.

Mr. King.

French 255. THE MODERN FRENCH THEATRE.

A study of the origins and development of *le théâtre nouveau* with emphasis on dramaturgy and *mise en scène*. The focus of the course is upon the theatre since 1950 especially lonesco, Beckett, Genêt, and Arrabal, but the course also explores the affinities between these playwrights and the Dada and Surrealist movements, and studies three precursors: Jarry, Ghelderode, and Artaud. Conducted in French.

Full course, Semester 2.

Mr. Spingler.

French 256. THE MODERN FRENCH NOVEL.

A study of major innovative novels in twentieth-century French literature. Texts will include Proust, Combray; Gide, Les Faux Monnayeurs; Malraux, La Condition humaine; Sartre, La Nausée; Camus, La Chute; Nathalie Sarraute, Entre la vie et la mort. Prerequisite: at least one course beyond French 131., or permission of the instructor.

Full course, Semester 1.

Ms. McCall.

French 257. FRENCH CLASSICAL TRAGEDY.

Not offered, 1976-77.

An intensive study of some of Corneille's and Racine's major tragedies. These will be analyzed closely from the point of view of dramaturgy, structure, and myth.

Full course.

Mr. Spingler.

French 258. EXPERIMENTS IN SELF-CONSCIOUS NARRATIVE:

NOVEL AND AUTOBIOGRAPHY. Not offered, 1976-77.

A study of contemporary French prose from the point of view of the author's self-affirmation through narrative. The problem of a possibly blurred division between fact and fiction, history and myth, will be explored through a study of novels and autobiographies of Gide, Sartre, Genêt, Beckett, Michel Leiris, and Henri Michaux.

Full course.

Mr. Spingler.

French 261. SENIOR TUTORIAL.

A program of extensive readings and of tutorial meetings designed to provide students with a broad view of the whole of French literature. The readings will be planned individually for each student in order to complement his/her previous course work.

Staff.

French 106. SPECIAL TOPICS IN FRENCH.

Variable credit, Semesters 1, 2, Modular Term. Staff.

French 206. SPECIAL TOPICS IN FRENCH.

Variable credit, Semesters 1, 2, Modular Term.

French 208. TEACHING LAB IN FRENCH.

A teaching apprenticeship experience offered to graduate students and to exceptional undergraduates who have demonstrated potential capability in this area. The teaching apprentice, under the supervision of the regular course instructor, is gradually exposed to all the aspects involved in teaching a foreign language course (planning and organization, preparation, presentation, evaluation) and is encouraged to become a co-teacher to the greatest extent possible.

Full course.

Staff.

B. GERMAN

German 10. READING KNOWLEDGE OF GERMAN.

Not offered, 1976-77.

A course in grammar and reading that will provide the student with the ability to read scientific and scholarly literature of average difficulty. No previous knowledge of German required. Indivisible course. Offered in alternate years.

Full course.

Mr. Schatzberg.

German 11. INTRODUCTORY GERMAN.

This course is designed to impart an active command of the German language. It combines the study of grammar with oral practice and readings in literary and expository prose. Indivisible course.

Full course, Semester 1.

Full course, Semester 2.

Mr. Hughes, Mr. Schatzberg.

Staff.

German 12. INTERMEDIATE GERMAN.

Review of German grammar. Reading and discussion of significant works in prose, poetry, and drama to acquaint students with outstanding writers and ideas in German literature and culture. Conducted in German. Individual work in the language laboratory. Weekly written assignments. Prerequisite: German 11 or equivalent background in the language. Full course, Semester 1.

Mr. Hughes, Mr. Kaiser.

Mr. Kaiser.

German 127. DRAMATIC EXPRESSION IN GERMAN.

Not offered, 1976-77.

This course provides the more advanced student of the language with the opportunity to refine and practice the habits of gesticulation, intonation and rhythm which characterize contemporary spoken German. Under close supervision, the class studies and learns one or more contemporary plays with a view to eventual production or dramatic reading of the piece(s). Emphasis is placed on pronunciation and gesture, and on the development of those intonational refinements appropriate to the interpersonal situations of the texts studied. Although discussion of the dramatic works as literature is clearly necessary, it should be noted that the course is essentially an advanced language course. Active participation of all students is required. Examination consists in the preparation of a dramatic passage which the student has prepared outside of class.

Prerequisite: German 12 or equivalent.
Full course. Mr. Hughes.

German 128. SPOKEN AND WRITTEN GERMAN.

This third-year-level course aims at strengthening good speech habits with regard to German grammar and syntax, at expanding the active vocabulary, and at improving the students' ability to express themselves in writing. Literary and journalistic texts will serve as a basis for discussion of important issues in contemporary Germany. Weekly written assignments. Recommended for majors and as preparation for German 132. Prerequisite: German 12., or equivalent.

Full course, Semester 1.

Mr. Kaiser.

German 130. MODERN GERMAN PROSE.

Selected works by Mann, Hesse, Kafka, Dürrenmatt, and Grass. Discussions, oral and written reports. This course, which is conducted in English, is also available for credit in German. Students selecting this option will read all works in German and meet with the instructor for one additional hour per week. Prerequisite: German 12., or equivalent.

Full course, Semester 2.

Mr. Hughes.

German 132. ADVANCED COMPOSITION AND CONVERSATION. Not offered, 1976-77.

Designed to develop accuracy and fluency of oral and written expression. Review of selected problems of grammar and exercises in idiomatic use of the language. Reading and analysis of modern short stories and discussion of significant aspects of contemporary German. Oral reports, weekly compositions. Required of majors. Prerequisite: German 12., or equivalent. Admission subject to consent of instructor.
Full course.

Mr. Kaiser.

German 135. EXPOSITORY AND CREATIVE WRITING.

The goal of this course is to help students develop greater fluency in written German through exercises first based on models of expository and literary prose and later leading to free compositions and short creative prose pieces. Prerequisite: One course beyond German 12., or equivalent.

Full course, Semester 2.

Mr. Schatzberg.

German 136. GERMAN LYRIC POETRY. Not offered, 1976-77.

Although examples from Luther to the present will be studied, the course is not primarily a survey of German lyric poetry, but rather an intensive study of selected poems. The student should, in analyzing the poems, gain some insight into the nature of the poetic statement, including the technical aspects of prosody. Wherever possible, musical settings will be considered to enrich the aesthetic experience. Prerequisite: German 12., or equivalent.

Full course.

German 138. MODERN GERMAN DRAMA.

Not offered, 1976-77.

Mr. Kaiser.

Reading and interpretation of selected plays by Brecht, Frisch, Dürrenmatt, Grass, Weiss, and Handke. Discussions, oral and written reports in German. Dramatic readings of selected scenes will be practiced with a view to introducing the element of performance in the interpretation of a text. Prerequisite: German 12., or equivalent.

Full course. Mr. Schatzberg.

German 142. GERMAN ROMANTICISM.

An analysis of German Romanticism from its beginning in the seventeen-nineties to its decline in the eighteen-thirties. Aesthetic credos, lyric poetry, the drama, major prose works (among them the fairy tale as an art form) will be discussed in their relation to the intellectual history of the period. Authors include the Schlegel brothers, Hölderlin, Novalis, Tieck,

Wackenroder, Kleist, Brentano, E.T.A. Hoffmann, Eichendorff, and Heine. Prerequisite: German 12., or equivalent. Full course, Semester 2. Mr. Kaiser.

German 145. THE GERMAN NOVELLE. Not offered, 1976-77.

An historical and critical study of this uniquely German genre. Particular attention will be paid to narrative technique and to the typical features of the novelle distinguishing it from the short story on the one hand and from the novel on the other. Selections range from Early Romanticism to Thomas Mann. Where applicable, a number of poems by the author under consideration will be discussed. Prerequisite: German 12., or equivalent.

Full course.

Mr. Kaiser.

German 155. NINETEENTH CENTURY GERMAN LITERATURE. Not offered, 1976-77.

A study of post-Romantic movements ("Biedermeier," Young Germany, Poetic Realism) and their relation to intellectual and social trends. Discussion and analysis of representative dramatic and narrative works as well as poetry by Grillparzer, Gotthelf, Droste-Hülshoff, Mörike, Stifter, Heine, Büchner, Keller, Storm, Meyer, Fontane. Prerequisite: German 12., or equivalent.

Full course.

Mr. Kaiser.

German 162. GOETHE'S FAUST. Not offered, 1976-77.

Reading and interpretation of Goethe's Faust I and II.
Discussions, oral and written reports in German. Prerequisite:
German 12., or consent of the instructor.
Full course.

Mr. Schatzberg.

German 166. GERMAN DRAMA FROM LESSING TO EXPRESSIONISM.

Reading and discussion of representative plays by the chief German dramatists from the end of the eighteenth to the early twentieth century. The course will focus on the sociopolitical aspects of these works, on the aims and concepts of the dramatic art and the changing traditions of playwriting. Authors include Lessing, Goethe, Schiller, Kleist, Grillparzer, Büchner, Hebbel, Hauptmann, Schnitzler, and Kaiser. Prerequisite: German 12., or equivalent. Full course, Semester 1.

German 170. THOMAS MANN. Not offered, 1976-77.

A concentrated study of the short stories and of the novel Felix Krull. Mann's development is traced from his early aestheticism and cultural pessimism to his later avowal of democratic socialism and historical optimism. Discussions of Nietzsche, Schopenhauer, Wagner, and Freud will illuminate Mann's changing perspective and artistic values and will take into account some reading in the historical background of the time. Full course.

Mr. Hughes.

German 172. NATURALIST AND EXPRESSIONIST DRAMA. Not offered, 1976-77.

Drama during the last quarter of the nineteenth and the first quarter of the twentieth centuries. Writers to be read include Hauptmann, Schnitzler, Kaiser, Wedekind, Hofmannsthal, Barlach, and Brecht; themes include decadence and impressionism. The dramatic "movements" will be related to the social and aesthetic theories which underlie them. This half century is extremely diverse and politically unstable in Germany and Austria; some reading in the cultural and historical background will be necessary.

Full course.

Mr. Hughes.

German 190. GOETHE.

An introduction to the life and work of Goethe, excepting his Faust. Prerequisite: consent of the instructor. Conducted in

German.

Full course, Semester 1.

Mr. Schatzberg.

German 192. SCHILLER AND KLEIST. Not offered, 1976-77.

A study of major literary works of Schiller (drama, poetry) and Kleist (drama, narrative prose). The works will be considered in terms of the historical epoch in which they were written. Discussion will focus on structural, moral, socio-political, and existential aspects. Conducted in German. Prerequisite: German 12., or equivalent.

Full course.

Mr. Kaiser.

German 196. INDEPENDENT READING AND RESEARCH IN GERMAN LITERATURE.

Independent course of study limited to qualified juniors and seniors. Reading and research will be in German or English and the program arranged individually. Prerequisite: consent of the instructor.

Variable credit, Semesters 1, 2.

Staff.

German 106. SPECIAL TOPICS IN GERMAN.

Variable credit, Semesters 1, 2.

Staff.

German 206. SPECIAL TOPICS IN GERMAN.

Variable credit, Semesters 1, 2.

Staff.

GERMAN LITERATURE COURSES TAUGHT IN ENGLISH

German 116. COLLOQUIUM ON MODERN GERMAN LITERATURE. Not offered, 1976-77.

The purpose of this course is to examine some of the dominant themes in modern German literature and to acquire skill in interpreting literary works. Enrollment is limited to assure every student the opportunity for active participation. Conducted in English.

Full course.

Mr. Schatzberg.

German 130. MODERN GERMAN PROSE.

Selected works by Mann, Hesse, Kafka, Dürrenmatt, and Grass. Discussions, oral and written reports. This course, which is conducted in English, is also available for credit in German. Students selecting this option will read all works in German and meet with the instructor for one additional hour per week. Prerequisite for those desiring to take course for German credit: German 12., or equivalent.

Full course, Semester 2.

Mr. Hughes.

German 152. THE MEDIEVAL GERMAN EPIC.

Not offered, 1976-77.

Around the year 1200, a number of epic masterpieces were produced in Germany which have taken their place in world literature. The following works, which represent the finest examples of the heroic and courtly epic tradition in German literature, will be studied: *The Nibelungenlied*, Hartmann von Aue's *Gregorius*, Wolfram von Eschenbach's *Parzival*, and Gottfried von Strassburg's *Tristan*. The structure of medieval society, religious ideals, the chivalric code as well as Germanic mythology, the legends of the Celtic King Arthur, and historical events, especially the Crusades, will be dealt with to the extent they are reflected in these works. Conducted in English. Full course.

German 168. MUSIC IN GERMAN LITERATURE AND THOUGHT.

Countless musicians, philosophers, and writers have speculated on the nature of music, its mysterious power to influence people and to communicate strong feelings. This course will be devoted to reading and discussion of works by the following authors from the German speaking countries of the nineteenth and twentieth centuries: Wackenroder, Kleist, Schopenhauer, E.T.A. Hoffmann, Goethe, Grillparzer, Heine, Mörike, Wagner,

Nietzsche, Hesse, and Thomas Mann. The approach will be predominantly thematic; however, several works will be studied which reveal the author's successful attempts to employ musical devices and structures in his literary creations. Conducted in English.

Full course, Semester 2.

Mr. Kaiser.

German 182. HESSE SEMINAR. Not offered, 1976-77.

A study of Hesse's major novels, *Demian, Steppenwolf, Narcissus and Goldmund, The Journey to the East,* and *The Glass Bead Game,* with selected readings from Nietzsche, Freud, and Jung as significant formative influences on the author's intellectual and artistic development. Conducted in English.

Half course.

Mr. Schatzberg.

German 183. KAFKA SEMINAR. Not offered, 1976-77.

A careful study of Kafka's short stories, parables, and aphorisms. Prerequisite: good familiarity with the major short stories and novels of Kafka. Conducted in English. Half course. Mr. Schatzberg.

C. HEBREW

Hebrew 11. ELEMENTARY HEBREW.

Emphasis on the spoken, living Hebrew language. Acquisition of vocabulary and basic grammar through reading of simple texts. Part of course, audio-visual method of "Habet U Shma." Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Indivisible course. Full course, Semester 1.

Full course, Semester 2.

Ms. Raviv.

Hebrew 12. INTERMEDIATE HEBREW.

Reading of graded texts: selected works from modern Hebrew literature, newspapers, etc. Enrichment and reinforcement of grammatical structures and written expression. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Prerequisite: the equivalent of Hebrew 11.

Full course, Semester 1.

Full course, Semester 2.

Ms. Raviv.

Hebrew 130. ADVANCED HEBREW.

A language-literature course based on readings of simple texts in contemporary Hebrew prose, drama, poetry. Advanced grammar and composition, with emphasis on the spoken language. Prerequisite: Intermediate Hebrew or the equivalent.

Full course, Semester 1.

Full course, Semester 2.

Ms. Raviv.

LITERATURE COURSES TAUGHT IN ENGLISH

Hebrew 118. EXEGESIS OF THE BIBLICAL BOOK OF GENESIS.

A critical analysis of the Hebrew text of Genesis, with a consideration of some Rabbinic commentaries. A fair reading knowledge of Hebrew is required.

Full course, Semester 1.

Mr. Klein.

Hebrew 119. HEBREW SCRIPTURES — PENTATEUCHAL AND HISTORICAL BOOKS. Not offered, 1976-77.

A survey and critical analysis of Genesis, Exodus, Leviticus, Numbers, Deuteronomy, Joshua, Judges, Samuel, and Kings. Full course. Mr. Klein.

Hebrew 120. HEBREW SCRIPTURES — PROPHETIC AND WISDOM LITERATURE. Not offered, 1976-77.

An analysis of relevant texts in Amos, Hosea, Micah, Isaiah, Jeremiah, Ezekiel in terms of their historical, social, and

religious background and their role in shaping the thinking of the Biblical Age.

Full course.

Mr. Klein.

Hebrew 185. TRENDS AND VALUES IN YIDDISH LITERATURE.

An outline of the major lines of development from the folk literature of the sixteenth century to the contemporary short story, novel, essay, and poem. Yiddish literature will be viewed both as an aspect of world literature and as a major factor in the preservation and enhancement of the specific distinguishing characteristics of the Jewish experience.

Full course, Semester 1.

Mr. Goldsmith.

D. RUSSIAN

Clark students may take additional courses in Russian language and literature at the College of the Holy Cross and Assumption College through the Consortium.

Russian 11. INTRODUCTORY RUSSIAN.

An introduction to the written and spoken language. Four class periods and three laboratory sessions a week. Indivisible course. Full course, Semester 1.

Full course, Semester 2.

Ms. Kriskijans.

Russian 12. INTERMEDIATE RUSSIAN.

Advanced Russian grammar. Continued emphasis upon reading and conversation. Three class periods, one supervised drill session, and three laboratory sessions a week. Open to qualified freshmen.

Full course, Semester 1.

Full course, Semester 2.

Ms. Kriskijans.

Russian 106. DIRECTED READING.

Students interested in specific authors and/or topics in Russian literature and civilization may receive instruction and guidance in either English or Russian.

Variable credit.

Ms. Kriskijans.

E. SPANISH

Spanish 11. ELEMENTARY.

For beginners or others not yet qualified to enter the intermediate course. Grounding in all four language skills (hearing, speaking, reading, writing) as preparation for subsequent courses conducted in the language. Three class meetings a week plus individual work in the language laboratory. Indivisible course.

Full course, Semester 1.

Full course, Semester 2.

Ms. Oyarzun.

Spanish 12. INTERMEDIATE.

Consolidation of basic skills in the language for students who have previously completed Spanish 11., or its equivalent. First semester stresses development of oral facility in Spanish through a variety of exercises including: taped interviews with native-speakers, improvisational acting in brief scenes from plays, and discussions based upon readings related to topics of Hispanic society and culture. Grammar review will be based upon the specific needs of the group. Prerequisite: Spanish 11., or equivalent skill in the language.

Spring semester will include more extensive readings on themes of Hispanic culture as the basis for class discussion and essay assignments. The focus of the spring semester will be those activities in speaking, reading, and writing which will provide the students with sufficient mastery of basic skills in Spanish so as to allow for reasonable adjustment to advanced course work in Hispanic studies.

Full course, Semester 1.

Full course, Semester 2.

Mr. D'Lugo.

Spanish 117. SPEAKING SPANISH: BEGINNING LEVEL. Not offered, 1976-77.

An intensive conversation course designed for students who have completed Spanish 11., or the equivalent. The course objective is to liberate the student from having to pause over verb conjugations, special phrasings, etc., and to help him gain a relaxed attitude toward a new language. Students will become more self-confident as they realize the extent to which they can express themselves. Course activities will be varied, ranging from spontaneous conversation based on topics of current interest to dramatizations of dialogs or skits.

Full course.

Staff.

Spanish 127. PRACTICE IN ORAL AND WRITTEN SPANISH.

An advanced intermediate course to help students develop fluency and accuracy in the spoken and written language.

Classes will stress composition and pronunciation, as well as conversation practice. Intended primarily for freshmen who have completed two to three years of high school Spanish.

Full course, Semester 1.

Mr. Barbera.

Spanish 131. READINGS IN MODERN SPANISH AMERICAN LITERATURE.

Third-year level. Variable content. Fall, 1976: El campo y la ciudad. Urban and rural life-styles in Spanish America as reflected in the literatures of three societies (Buenos Aires and the Argentine experience; Mexico and its cultural past and present; island and mainland experiences of Puerto Rican culture). Readings will include representative works of fiction and drama in the respective cultures. Conducted in Spanish. Prerequisite: Spanish 12., or equivalent skill in the language. Full course, Semester 1.

Spanish 132. INTRODUCTION TO SPANISH LITERATURE OF THE TWENTIETH CENTURY. Not offered, 1976-77.

Reading and discussion of selected works from the Generation of 1898 to the contemporary period (Unamuno, García Lorca, Cela, Benavente, Buero Vallejo, Sastre, Goytisolo). Emphasis on conflictual structures within dramatic and narrative works: individual vs. the group as seen particularly in the Civil War and its effects on subsequent literary and social development in Spain. Prerequisite: Spanish 131., or permission of the instructor.

Full course. Mr. D'Lugo.

Spanish 133. LATIN AMERICAN THEMES.

A third-year course of readings and discussions intended to introduce the student to the diversity of Hispanic culture through a close consideration and analysis of a limited number of problems as reflected in selected readings from literature, history, cultural anthropology as well as current periodicals in Spanish. The course will focus on one or two of the following national cultures: Chile, Cuba, Mexico, Spain, Argentina. Topics normally covered include: parallel development of Anglo-American and Hispanic cultural institutions; changing identity of the family and the individual in twentieth century society; the emerging identities of women in these societies and a comparison with traditional Hispanic definitions of women's role. Readings and discussions in Spanish.

Full course, Semester 1.

Ms. Oyarzun.

Spanish 135. HISPANIC ETHOS AND CINEMA: THE FILMS OF LUIS BUÑUEL. Not offered. 1976-77.

Viewing, discussion, and analysis of the major films of Luis Buñuel in the context of the cinematic medium as well as in the broader tradition of a particular critique of Hispanic social values. The recurrent motifs of catholicism and the church, charity, violence, and sexual repression will be examined as cinematic form and substance. Readings will include film scripts, film criticism, and source novels. Conducted in Spanish. Prerequisite: Spanish 131., or permission of the instructor.

Attendance at 10 film showings during the semester (approximately one weekly) will be required of students taking the course for credit. All films will be subtitled in English. Full course.

Mr. D'Lugo.

Spanish 136. WOMEN'S ROLE IN SPANISH LITERATURE.

Selected works will be studied with a focus on the role of women in the literature of Spain throughout the centuries. Prerequisite: Spanish 12., or an equivalent skill.

Full course, Semester 1.

Mr. Barbera.

Spanish 137. ORAL AND WRITTEN SPANISH.

Third-year level. A rapid review of grammar and stylistics.
Exercises in composition, pronunciation, and intonation.
Intended to allow the student with one or more years of advanced college work in Spanish (or equivalent) the opportunity for refinement and mastery of both written and spoken Spanish.
Emphasis will be placed upon control and accuracy of expression in writing through regular compositions and translation exercises, as well as work in phonetics and diction.
Prerequisite: Spanish 131., and one course above that level.
Full course, Semester 2.

Mr. D'Lugo, Ms. Oyarzun.

Spanish 139. LITERATURE AND REVOLUTION IN SPANISH AMERICA. Not offered, 1976-77.

Full course.

Mr. D'Lugo.

Spanish 140. SPANISH DRAMATIC EXPRESSION/PLAY PRODUCTION.

Intended to provide the student who has completed Spanish 12., or equivalent, with an opportunity to develop and refine habits of gesticulation, rhythm, and intonation which characterize contemporary spoken Spanish. The course will include close work on two contemporary dramatic works which will give the student practical experience in the skills of interpersonal encounters in which control of oral expression is required. Although some consideration will be given to the texts as dramatic works, the principle of this course is a workshop in advanced oral Spanish. Prerequisites: Spanish 12., or equivalent skill in the language.

Full course, Semester 1.

Mr. D'Lugo.

Spanish 242. EARLY SPANISH LITERATURE FROM THE POEMA DE MÍO CID TO THE CELESTINA.

Not offered, 1976-77.

This course will emphasize the nature of epic poetry, the first manifestation of "realism" in the literature of the Middle Ages, and will culminate in the hybrid masterpiece, the *Celestina*, a combination of novel and drama, unique in the history of European literature. Conducted in Spanish. Prerequisite: grade of B- or higher in a third-year course. Offered in alternate years. Full course.

Mr. Barbera.

Spanish 243. CERVANTES.

Not offered, 1976-77.

This course will concentrate upon Don Quijote. The picaresque novel will be read for its influence upon Cervantes. The views of

important essayists will be studied in conjunction with the reading of the Quijote. Conducted in Spanish. Prerequisite: grade of B- or higher in a third-year course.

Full course.

Mr. Barbera.

Spanish 244. THE DRAMA OF THE SIGLO DE ORO.

Not offered, 1976-77.

Besides the major figures such as Lope de Vega, Tirso de Molina, Alarcón, and Calderón de la Barca, there will be some study of the origins of the drama in Spain. Conducted in Spanish. Prerequisite: grade of B- or higher in a third-year course. Offered in alternate years.

Full course. Mr. Barbera.

Spanish 245. NARRATIVE LANDMARKS IN THE HISPANIC TRADITION.

Variable topic. The selection of works will reflect the contribution to both national and world literatures of major narrative works of Spain and Spanish America. Each work will be studied within the context of the literary and social ambience to help clarify the nexus between the work of art and its matrix, as well as the relationships of works of art to each other. Spring 1977 readings include: La Celestina, Lazarillo de Tormes, Don Quijote de la Mancha (Part 1), El burlador de Sevilla, La vida es sueño.

Full course, Semester 2.

Mr. Barbera.

Spanish 246. MAIN CURRENTS IN CONTEMPORARY SPANISH AMERICAN FICTION.

Variable topic: Fall, 1976: "Tradición y actualidad de la cuentística hispanoamericana". Close examination of exemplary shorter narratives in Spanish American fiction from the nineteenth century to the contemporary period. Emphasis upon the dynamic tension between continuity in the genre and innovative techniques of particular authors. Readings from the works of Darío, Quiroga, Lugones, Arlt, Borges, García Márquez, Rulfo, Cortázar, Elizondo, and Cabrera Infante. Prerequisite: Spanish 131., and one literature course above that level. Full course, Semester 1.

Spanish 106. SPECIAL TOPICS IN SPANISH.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

Spanish 206. SPECIAL TOPICS IN SPANISH.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

French

(See Department of Foreign Languages and Literatures.)



Geography

DEPARTMENT FACULTY

Saul B. Cohen, Ph.D., Professor of Geography, Director of the Graduate School of Geography, Adjunct Professor of Government and International Relations

Leonard Berry, Ph.D., Professor of Geography, Co-Directer, International Development Program, Dean of the Graduate School, Coordinator of Research

Martyn J. Bowden, Ph.D., Professor of Geography

Gerald J. Karaska, Ph.D., Professor of Geography, Editor of Economic Geography

Roger E. Kasperson, Ph.D., Professor of Geography and Government & International Relations

Robert W. Kates, Ph.D., Professor of Geography, University Professor, on leave Semester 2

Duane S. Knos, Ph.D., Professor of Geography

Anne Buttimer, Sr. Mary Annette, O.P., Ph.D., Associate Professor of Geography

William A. Koelsch, Ph.D., Associate Professor of History and Geography, University Archivist

Laurence A. Lewis, Ph.D., Associate Professor of Geography, on leave academic year.

J. Richard Peet, Ph.D., Associate Professor of Geography Kang-tsung Chang, Ph.D., Assistant Professor of Geography and Cartography

Stephen L. Feldman, Ph.D., Assistant Professor of Geography Richard A. Howard, Ph.D., Assistant Professor of Geography and Adjunct Assistant Professor of Biology

Douglas L. Johnson, Ph.D., Assistant Professor of Geography, on leave Semester 1

Dennis W. Ducsik, Ph.D., Assistant Professor of Science,

Technology & Society, Adjunct in Geography

Harry E. Schwarz, B.C.E., Visiting Professor of Environmental Affairs, Adjunct in Geography

David B. Prior, Ph.D., Visiting Associate Professor of Geography Phillip O'Keefe, Ph.D., Visiting Assistant Professor of Geography

Richard P. Palmieri, Ph.D., Visiting Assistant Professor of

Geography

Richard A. Warrick, Ph.D., Visiting Assistant Professor of Geography

STAFF

Mary A. O'Malley, Administrative Assistant William J. McCall, M.L.S., Map Curator Ruth A. Rowles, B.A., Senior Cartographer, Manager Cartographic Laboratory

PROFESSORS EMERITI

Raymond E. Murphy, Ph.D., Professor of Economic Geography, **Emeritus**

Henry J. Warman, Ph.D., Professor of Geography, Emeritus

Each year the School of Geography has in residence or as off-campus affiliates a number of Research Affiliates. For 1976-77 these are: David Sharon, Gerhard Tschannerl, Ian Burton, Ewa Novosielska, Dolores Garcia, Timothy O'Riordan, Solveig Martensson, Asher Schick.

When the Graduate School of Geography was organized in 1921, Clark became the second university in the United States to establish a separate graduate program in Geography. At the present time, advanced training is provided leading to the Master's and Doctor's degrees. In addition, the school offers an undergraduate major, and a seven- and five-year program, B.A./Ph.D. and B.A./M.A. degrees. Clark is a center for geographical training and research in the United States, and its

various offerings provide a maximum of individual attention through student-teacher dialogue.

DISTINCTIVE FEATURES AND SPECIALIZATION

The School of Geography is housed in modern quarters in the University's Academic Center. Graduate students and senior geography majors are assigned carrels in the Geography Workroom. The Workroom and other sections of the Geography Building contain specialized equipment and research facilities for the use of students and staff. The John K. Wright Reading. Room contains the Graduate School of Geography's working reading collection. The core of this collection is the personal library of Dr. John K. Wright. The collection is continuously updated by the addition of new publications in the field of geography plus subscriptions to major geographic and scientific journals. A Curriculum Library is also located in this Reading Room. The Libbey Library of the Geography Workroom serves as a student lounge.

The Guy H. Burnham Map Library is a multi-faceted special library staffed by a professional librarian. It is one of five federal depositories for maps and charts. The collection consists of over 120,000 maps, charts, atlases, aerial photographs, and globes. Supportive materials either are on hand or can be obtained through inter-institution or inter-library cooperation. The library is designed to meet the geographic needs of the Clark community and the Central Massachusetts area.

Cross-disciplinary training, as evidenced by the six joint appointments held by geography faculty with other departments; the clustering of faculty research and teaching interests in several areas having to do with the man-environment system; and specialization in urban-economic, environmental management and behavior, international development, political. historical, cultural geography, and geomorphology currently characterize the school.

PUBLICATIONS

A professional magazine, Economic Geography, is edited by a faculty member. Started at Clark University in 1925, it is the only journal published in English that specializes in economic and urban geography. The magazine has a world-wide distribution with a total circulation of about 5,000.

The graduate students, through the years, have maintained the Clark University Geographical Society (CUGS). The annual publication, The Monadnock keeps School of Geography alumni in touch with each other and with news and scholarly activities in the school.

UNDERGRADUATE PROGRAM

The Undergraduate Geography Program covers a three-year period (sophomore-senior), during which 50-80 per cent of the course time is to be accounted for within the program. A minimum set of geography requirements is built into the major. and much of the students' work in cognate fields will be carried on through the advice of the adviser and in the context of individual needs and capacities. During the freshman year, a broad "Survey of Geography" and one or two "principles" courses are offered with attention given to the formation of small-group organization within the larger class framework. The program is designed to integrate the students' course program more fully and to provide greater scope and latitude for research/training opportunities.

A) The key points in this program are:

(1) An Introductory Tutorial for all majors sometime during the sophomore year. This is a half course offered over a full semester under the supervision of a faculty member, with small groups directed by advanced graduate students. The objective of the tutorial is to establish personal relationships between faculty, undergraduate, and graduate students that will be a framework of interaction to affect other course work.

- (2) A Capstone Seminar for geography seniors. This is also a half-course offered over a full semester. It is problemoriented and produces an individual or team research product. The seminar uses as its base a summary of the totality of each student's geography learning experience. The first part deals with problem-setting design and methodology; the second part with the research activity itself.
- (3) Fifth Module is used by the Geography Department as a period in which field and laboratory courses are emphasized. Field courses are seen as skill/tool technique opportunities which are of particular value to juniors.
 - B) Majors in geography are required to take the following:
- (1) Survey of Geography (011.) plus two introductory courses from the following: Physical Geography (014.), Economic Geography (015.), Cultural Geography (017.). Substitution of 100-level courses in these four areas may be approved by the department.
- (2) Skill courses (two of the following): Introduction to Statistical Geography (110.), Computer Programming (212.), second college year level foreign language, or Introduction to Cartography (191.).
- (3) A minimum of five elective semester courses in geography.
- (4) A minimum of four semester courses in a related field. Related fields include: biology, chemistry, computer science, economics, education, government, history, physics, psychology, sociology.
- (5) Tutorial in Geography (001.) (half course for sophomores); Capstone Seminar in Geography (002.) (half course for seniors).

Letter grades for required courses except Tutorial and Capston are mandatory.

For those taking a dual or inter-disciplinary major the following are required: Survey of Geography (011.); Tutorial in Geography (001.); one of the following introductory courses — Physical (014.), Economic (015.), Cultural (017.); two of the four "skills" courses; a minimum of three other elective geography semester courses that are clearly linked to the cognate field; Capstone Seminar (002.).

C) Since 1971-72, formal seven- and five-year programs for Clark undergraduate students have been offered, leading to the Ph.D. and M.A. degrees in geography. At the undergraduate level, applicants must major in geography and a dual or interdisciplinary field, and make application at the end of the junior year. The B.A./Ph.D. program may include one (the sixth) year off campus, in residence at another university or agency. Admissions are limited to a very small number of highly qualified students and in subfields of concentration that are approximate to Clark's range of offerings. For specific information, contact the Director of the School of Geography. Applications to these programs should be submitted to the Geography Office no later than May 15th.

THE GRADUATE SCHOOL OF GEOGRAPHY

Admission: Applicants without prior training in Geography are welcome, but depending on their concentrations, may be required to improve their knowledge of elements of geography, economic geography, cartography, or descriptive statistics. Courses taken to remedy any deficiencies will not count as part of the regular program. The Graduate Record Examination scores (Verbal and Quantitative) are required of all students with the exception of those in foreign countries. The GRE Advanced Placement Test in Geography is desirable, but not required.

Degree Objectives: The graduate program in geography at Clark has been derived from a synthesis of faculty-student discussions, documents, and experiences. The Ph.D. training program stands as the central thrust in the Graduate School of Geography at Clark. In the context of the graduate training program, it is assumed that students may wish to pursue two tracks: one, the traditional Ph.D. with its training and

experiential requirements in research and in teaching (assuming minimal steps for competence in the latter); the other, the Ph.D. with training related directly to the competence of individuals as college geography teachers, the thrust being in the combination of work relating to the teaching and learning of geography as a social science, and specialization in one major sub-field in geography. The School of Geography fosters student and faculty exchange with other institutions, including institutions outside the field of geography and with geography departments elsewhere. Clark has long encouraged ties with foreign geography students and faculty. Focus in recent years has also included links with developing institutions in the U.S. through training of prospective faculty and facilitating programs.

Specialized Programs in Sub-Fields: The curriculum is organized to focus on specialized programs in sub-fields of geography. Such sub-fields are developed around a series of sequentially-oriented courses which, in general, occupy from one-third to no more than one-half of the students' formal doctoral program. The sub-fields are organized in accordance with the interests, competencies, and breadth of the staff. Programs in Environmental Management and Behavior, Political Geography, Urban Geography, Geomorphology, Historical Geography, Cultural Geography, Geography and its Teaching, are examples of concentrations. Minor field concentration is also required, permitting, as a side benefit, shifts in the major concentration or sub-field. Therefore, even those students who arrive with pre-conceived notions about the major concentration will have opportunities to switch to other fields. In general, subfields are organized around committees with three to five staff members. Responsibility for supervision of the students' course selection, dissertation, and other training experiences is with the sub-field adviser.

In the organization of the curriculum in this specialized structured manner, there is neither the intention nor the desire to exclude faculty and students who do not wish to operate within the framework of a formal sub-field. Students may wish to create their own personalized programs or fields of concentration outside of the formal sub-fields. The only limit to this lies in the general nature of the offerings and in the interests and competencies of staff. Where formal specialized programs do not exist, it becomes the responsibility of the major adviser to develop, together with the students, a program whose various prerequisites will follow the general form and intent of the Clark graduate geography program. Development and evaluation of specialized programs rests heavily on the activities of joint student-faculty committees. Passing of prerequisites (e.g., substantive course background, statistical methods, computer science, or cartography) is essentially the responsibility of the specialized concentration, as is the encouragement of crossdisciplinary training.

Orientation Program for Entering Graduate Students: All entering graduate students are required to take Geography 396a., Approaches to Geography — a series of presentations which will survey research efforts in specific subfields and then continue with a workshop concerned with approaches to learning, the development of a sense of problem, and scientific inquiry. As part of this course, a field camp will be held to provide field experience as a basis for identifying problems or for validating existing problems in a specified area. In addition to entering students, continuing students are invited to participate. At the end of the course those students who wish to continue may do so through some form of directed study on an individual or group basis.

Formal Course Requirements: Other than those courses considered prerequisite to the specialized or individually-tailored program, no formal course requirements are set. It is the full responsibility of a student's adviser to require that a student take courses in areas of deficiency. Such courses might be required on a formal basis, on an audit basis, or through organized readings.

Proficiency and Research Papers: Two formal papers are required. A proficiency paper, normally submitted during the

second semester of the first year, and a research paper in the field of specialization, normally submitted during the second year. Both papers are brief and in the style and form of scholarly articles

The Proficiency Paper: All incoming students are expected to present the proficiency paper no later than between March 15th and April 15th of the academic year. The objectives of this paper are two-fold: (1) to evaluate a student's ability to think and write logically and to articulate a research problem; and (2) to identify individual strengths and weaknesses as a guide to future course work and needs. The paper should normally not exceed 30 pages (unless the M.A. thesis is presented), excluding specialized bibliographical references, and should represent a finished piece of work in style, sense of research problem, and findings. The style should follow Turabian in terms of what is expected of a scholarly article. The paper may be generated within the context of the Orientation Program. It is expected that this paper will be read by three individuals, a major reader drawn from the research area, and two members of the faculty who play the role of generalist-readers.

The Research Paper: As a prejude to the development of a doctoral dissertation proposal, each student is expected to submit an advanced research paper (15-30 pages in length) in his/her field of specialization approved by the major adviser. This paper is to be submitted as demonstration of the ability to research a problem in depth and to write it in publishable form (cf. Turabian). Generally the research paper is written in connection with a course or seminar taken in a specialized field and is submitted during the second year. Distinguished from the proficiency paper, which is likely to show only preliminary inquiry into a problem area, the research paper is expected to evince mastery of the topic. The adviser is responsible for approving the paper and submitting it to the Geography Office.

The research paper is a prerequisite for the pre-doctoral M.A. Should a student not desire to apply for this M.A., he or she need not submit the research paper. However, it is assumed and strongly urged that all students apply for the pre-doctoral

M.A. and submit a paper.

Residence Requirement: A three-year residence beyond the B.A. degree is required for the Ph.D. program. One of the years in residence must be the year in which the dissertation proposal is submitted and approved, and, as part of the three-year residence, the student must remain in residence for one semester (or one summer under direct supervision) following approval of the outline to work on the dissertation. After approval of the dissertation proposal, if the dissertation is not completed by the end of four years, the proposal must be submitted for reapproval. One prerequisite for such reapproval is provision for one academic semester's residence during the next year to work on the dissertation. (Twelve weeks during the summer is considered the equivalent of an academic year semester for this purpose, with the proviso that a faculty member be in residence at Clark during the summer and express a willingness to supervise.) Upon completion of all formal requirements, save the completion of the dissertation, the student is expected to file for candidacy with the Graduate School, unless specific permission not to file is granted by the School of Geography. Students entering with an M.A. in a field other than geography will be expected to take essentially the three-year residence program. Students entering with an M.A. in geography from another institution may expect to complete their residence in five semesters or two and one-half years.

Teaching and Research Prerequisite: Some teaching and research experience at Clark is prerequisite to the doctor's degree and the terminal M.A. degree. Every effort is made to organize various forms of internships to provide on- and offcampus training activities, at the teaching and research levels, generally at the end of the second year of residence.

DOCTOR OF PHILOSOPHY

A) Language and/or Alternate Requirement Options to examination in a traditional foreign language are available. These include: (1) computer science, (2) statistical methods, and (3) cartography; in addition, other options can be required or made available by individual concentrations with the approval of the faculty. The requirement varies with the concentration.

B) The Ph.D. Examination

All Ph.D. candidates must prepare themselves for examination in three fields. The major field examination consists of a 90-minute oral examination. The student may opt for either a 45-minute oral or a three-hour written examination in each of the two minor fields. Selection of fields should be made in consultation with the major adviser and the other committee members at least two months in advance of the examination dates, and is subject to departmental approval. In selecting the three fields, breadth in an interrelated set of sub-fields, depth in connection with the proposed dissertation topic, or competencies and availability of staff are considerations.

Under normal circumstances, it is expected that the language requirement (or its alternatives) will have been successfully met prior to the student's taking the Ph.D. examination. Approval of the dissertation proposal may precede the Ph.D. examination. Doctoral examinations are not normally conducted between May 1 and September 15, and should be requested 60 days before the desired date.

C) Committee System for Ph.D. Dissertation

The dissertation committee is composed of five faculty members, with responsibilities for: (a) approval of the outline: (b) reading and reviewing of the dissertation (two readers and three reviewers); and (c) participating in the dissertation defense. The committee will include two external members (second reader and/or reviewers). External members may be drawn from the field of Geography outside the University or from other departments within the University. When the dissertation proposal has been approved by the committee in its entirety or majority, a letter to this effect shall be submitted to the Geography Office by the first reader together with 15 copies of the proposal. The director of the school will then circulate the proposal to each member of the faculty for comments, and final approval will be made at the end of two weeks by the director in light of these comments.

When the draft of the dissertation has been approved by the committee, three copies of the draft with a letter to the effect of the approval signed by the first reader, will be submitted to the Geography Office. The director will then inform the faculty that these copies are available for examination for a period of two weeks. Any time after the end of the two-week period, the defense may be scheduled. In addition to the committee, any member of the Clark faculty (geography or other departments) is invited to participate in the defense. A week before the defense date, notices will be given of the defense to the Dean of the Graduate School. If the defense is adequate, then the dissertation in final form is delivered, with two copies to the departmental office and the ribbon copy to the Registrar.

MASTER OF ARTS

While the thrust of the Clark Geography Program is at the doctoral level, two types of M.A. degrees will be made available: A) The Pre-Doctoral M.A.

Students working toward the Ph.D. will be granted, upon request, an M.A. degree at the end of the required residence period, having completed: (a) the dissertation proposal; (b) required course work; (c) the Ph.D. preliminary examination; and (d) a formal research paper approved by the concentration adviser. (See "The Research Paper" for details.) B) The Non-Doctoral M.A.

Normally no later than at the end of the first semester of the second year of residence, after a review process that includes a proficiency paper in the concentration at the end of the first year. students may opt or may be advised to shift to a terminal M.A. degree, under which circumstances they will be expected to drop one or two courses in order to write a thesis. This thesis is

envisaged as a research paper or short article (15-30 pages), demonstrating an ability to define a problem as well as serving as evidence of research competence. The thesis would be presented in a manner as to meet the form and standards of a professionally acceptable article, and will be defended at the Master's Oral Examination.

After approval by a committee consisting of the major adviser and two other faculty of the student's choosing, three copies of the final draft with a letter by the major adviser noting committee approval will be delivered to the Geography Office. The director will then announce to the faculty that the draft is available for examination. Any time after the end of ten days, the defense may be scheduled. In addition to the committee, any member of the Clark faculty (geography or other departments) may be invited to participate in the defense. A week before the defense date, notice will be given of the defense to the Dean of the Graduate School.

Following defense of the thesis, two final copies are delivered to the departmental office and the ribbon copy to the Registrar. Thesis defense should be conducted six weeks prior to commencement.

COURSES

Courses are numbered under three headings: #1 primarily for undergraduates; #2 for advanced undergraduates; #3 primarily for graduates. Courses beginning with #0 are introductory and, along with #1 courses which have no prerequisites, are open to freshmen. These levels are not restrictive to properly qualified students.

001. TUTORIAL IN GEOGRAPHY.

A basic introduction for majors to geography as a field and to bibliographic research methodologies. The course examines geographic journals as an introduction to geography and its practice; explores the Goddard Library's potential as a research center; investigates alternative research facilities in the areas that are of use to geographers, and stresses the preparation and writing of research reports as a basis for autonomous learning in a geographic setting.

Half course, Semesters 1, 2. Mr. Johnson, Staff.

002. CAPSTONE SEMINAR IN GEOGRAPHY.

This seminar is for geography seniors and is problem-oriented to produce an individual or team research product. It uses as its base a summary of the totality of each student's geography learning experience.

Half course, Semesters 1, 2. Staff.

011. SURVEY OF GEOGRAPHY.

Survey provides a general conceptual framework for understanding modern geography. Emphasis is placed on the interrelation of various approaches to geographic research as presently conducted in the Graduate School of Geography. Urban, physical (climatology, soils, biogeography, and land form studies), economic, political, social, cultural, historical, and regional themes will be developed with approximatley one-third of the lectures being given by various staff members. The course is designed primarily for freshmen and sophomores and is a required course for geography majors.

Full course, Semester 1.

013. FIELD STUDIES OF ENVIRONMENTAL ISSUES.

Explores environmental concerns in the Worcester region through field experience, problem identification, and issue discussion. Freshmen and sophomores will work with graduate students on environmental management problems in field studies and small group investigative projects. Needed methods and techniques will be developed around three key themes: how do we find out, how do we know, and how do we communicate research findings.

Full course, Semester 1.

Mr. Kates.

014. INTRODUCTION TO PHYSICAL GEOGRAPHY.

A basic inquiry into components of geomorphology and climatology. The role of man as a critical agent in physical geography is included by looking at inadvertent climatic modification and alteration of the earth's surface by man's activities. Labs and field trip.

Full course, Semester 2. Mr. Prior.

015. INTRODUCTION TO ECONOMIC GEOGRAPHY.

An introduction to economic geography including an outline and critique of theories of location and economic development.

Full course, Semester 1.

Mr. Karaska.

017. INTRODUCTION TO CULTURAL GEOGRAPHY.

The course is an ecological and historical approach to the study of cultures and culture change in a spatial context. A series of broad themes and problems are illustrated by case studies. Among the major themes to be considered are: adaption to environment, culture in prehistory, migration and the creation of culture areas, the world views of primitive, traditional, and industrial cultures, culture landscape, and the cultural geography of the United States. A schedule of three lectures and one discussion per week are integral parts of the course. Full course, Semester 2.

098. READINGS IN GEOGRAPHY.

Directed readings for undergraduates in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2. Staff.

099. RESEARCH IN GEOGRAPHY.

Special research projects for undergraduates in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2.

Staff.

110. INTRODUCTION TO STATISTICAL GEOGRAPHY.

Principles of inferential statistics will be introduced. These will include point estimation, internal estimation, sampling distributions, hypothesis testing and correlation techniques. Full course. Semester 1. Mr. Howard.

114. DYNAMICS OF THE EARTH SURFACE.

An examination of the earth's physical landscapes including the processes that shape the landforms as well as the evolution of landscapes. This inquiry will investigate the roles of water, ice, wind, and human activity on the erosional and depositional processes.

Full course, Semester 1. Mr. Prior.

115. CULTURAL ECOLOGICAL SYSTEMS.

Investigates cultural adaptations to a variety of ecological settings. Selected case studies are used to illustrate systematic aspects of lifestyle adjustments in a number of the earth's major environmental regions.

Full course, Semester 1. Mr. Palmieri.

124. GEOGRAPHY OF DESERTIFICATION: MAN, CLIMATE & CHANGE IN ARID WORLD.

Are arid regions ecologically fragile, collapsing easily under human and climatic pressures? Are deserts expanding, destroying all in their paths? Can arid areas continue to support increasing human populations? Will future Sahelian droughts create havoc or can the problem be controlled? These and other issues which form the focus of the 1977 World Conference on Desertification will be discussed. Viewed in a historical perspective, the demography, social and livelihood systems, behavioral characteristics, and physical constraints of

desertification-prone areas will be analyzed and their future development potential assessed.

Full course, Semester 2.

Mr. Johnson.

125. DEVELOPMENT PROBLEMS.

The several dimensions of development and the reasons why the gap between developed and underdeveloped countries is widening will be explored. Among the disciplines drawn upon will be: geography, government, economics, and education. Problems analyzed will include: urban growth, land reform, unemployment, and government planning. Tanzania, China, Brazil, and other countries will be used as cases. See also History 288.

Full course, Semester 1.

Mr. Ford, Mr. Berry, Ms. Enloe.

126. GEOGRAPHY OF NATURAL HAZARDS.

How is it that people survive and even prosper in areas of high recurrent natural hazards, e.g. floods, droughts, tropical cyclones, earthquakes and volcanoes?

Full course, Semester 1.

Mr. Warrick,

130. REGIONAL POLITICAL GEOGRAPHY.

Concentrates on the impress of politics upon landscape in unique regional settings. Problem-oriented, within the context of world regional survey. Prerequisite: Geography 011., or Government 014.

Full course, Semester 2.

Mr. Cohen.

150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

Help wanted: Water resource planners for City of Aguarius to prepare 50-year plan for water supply, water quality, flood control, and recreation. Includes opportunity to use advanced computer simulation. Group collaboration required. Full course, Semester 2.

151. SPACE, LANDSCAPE & ENVIRONMENT IN AMERICA.

Changing conceptions of space, landscape, and environment in 200 years of American history. Emphasis on the contrast between high cultural and popular cultural views and upon myth and reality.

Full course, Semester 2.

Mr. Bowden.

152. FORMATIVE PLANNING IN GEOGRAPHY.

An analysis of formative planning as a process at the local, state, and national levels.

Full course, Semester 2.

Mr. O'Keefe.

157. THEORY OF RESOURCES.

Elementary theory of resources geography and economics. Problems of resource scarcity and economic growth, common property resources, location theory, and resource utilization. Permission required for freshmen.

Full course, Semester 1.

Mr. Warrick.

159. GEOGRAPHY OF RECREATION.

This course deals with the changing meanings and uses of leisure and recreation, problems in the evaluation of outdoor recreation as a resource, issues in the management of outdoor recreational facilities including both urban and wilderness recreation, and case studies in applied recreational research. The aim is to introduce students to the variety of philosophical concepts and methodological techniques associated with modern research in recreation.

Full course, Semester 2.

Mr. Warrick.

161. GEOGRAPHY OF AMERICAN INEQUALITY AND POVERTY.

Viewpoints on poverty — the culture of poverty versus Marxist

interpretations. The geographic (environmental) theory of poverty, poverty in rural areas, rural to urban migration, ghetto formation, poverty in cities, antipoverty policy and planning will be discussed.

Full course, Semester 1.

Mr. Peet.

171. SOCIAL GEOGRAPHY.

Life styles are examined in terms of man's relationship to his milieu in various contexts. Landscapes are seen as expressions of an on-going dialogue between man and nature, and students are encouraged to explore their own personal experiences of their own milieux. Prerequisite: Geography 011.

Full course, Semester 1. Ms. Buttimer.

188. IDEOLOGY AND ENVIRONMENT: SHAPING THE LAND OF ISRAEL.

A problem-oriented course emphasizing ideology and environment in the rural and urban settlement process in both an historic and contemporary setting. Particular emphasis upon changing patterns and planning for the year 2,000.

Full course, Semester 1. (COPACE) Mr. Cohen.

191. INTRODUCTION TO MAP MAKING AND CARTOGRAPHY.

An introduction to cartography and the mapping process with emphasis on problems of data collection, scale, compilation, and selection of cartographic method. Fundamental aspects and use of major types of map projections and examination of transformations to non-geographic spaces (cartograms).

Full course, Semester 1.

Mr. Chang.

193. CARTOGRAPHIC GENERALIZATION AND SYMBOLIZATION.

Two major topics in cartography will be covered in this course: (1) principles of generalization and their application to generalization of base map, point data, aerial data, and landform representation; and (2) study of alternative solutions to symbolization of qualitative and quantitative data. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Chang.

200. ENVIRONMENTAL EDUCATION WORKSHOP.

This course will focus on the development of effective teaching strategies in environmental education for implementation at both the elementary and secondary levels. A major concern will involve the development of teaching models from a number of perspectives (ecological, geographical, historical, legal). Background in curriculum development or internship helpful. Full course, Semester 1. Mr. Knos, Staff.

203. STUDENT TEACHING.

An introduction to the construction and development of learning-teaching situations in geography. Required of all students in the geography teaching cluster. Prerequisite: permission of instructor. (See also Education 203.)

Two-course value.

Semester 2.

Mr. Knos, Staff.

204. CURRICULUM DEVELOPMENT AND ANALYSIS.

A consideration of the assumptions about learning, teaching, and knowledge which are incorporated in the full range of curriculum materials presently available for teaching geography and history. Each student will prepare a curriculum plan suitable to individual educational objectives for teaching history or geography. The course is required of all students in the geography teaching cluster. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Knos, Staff.

205.1 METHODS OF TEACHING AND RESEARCH IN EDUCATIONAL SYSTEMS.

An analysis of group and personal experiences of four components — spatial, social, political, and psychological — which function in classrooms and which hinder or enhance learning. This course provides substantive input for the curriculum development course and is required of all students in the geography teaching cluster. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Knos, Staff.

205.2 EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Normally this course is taken after the Geog. 203., 204., 205.1.

Full course, Semester 2.

Mr. Knos, Staff.

206. AUTOBIOGRAPHY WORKSHOP.

A consideration of how students have learned in their own lives as a prerequisite to helping others to learn. The course seeks to engender an appreciation of both uniqueness and generalization in the process of teaching any social science discipline.

Half course, Semester 1.

Mr. Knos, Staff.

209. SIMULATION AS A LEARNING DEVICE.

Designed to provide experience in the development of simulations to illustrate a variety of geographic concepts. Concepts will be defined; illustrations in the real world will be formulated; and simulations of these situations will be developed.

Full course, Semester 2.

Mr. Knos.

212. COMPUTER PROGRAMMING.

Fundamentals of FORTRAN IV are presented. Designed for students with no mathematics beyond high school. Emphasis is on numeric applications.

Full course, Semester 2.

Mr. Howard.

213. HISTORICAL GEOMORPHOLOGY & ARID LAND FORMS.

Advanced seminar will discuss two main themes: (1) The development of historical geomorphology through the nineteenth and twentieth centuries. Special attention will be given to the historical development of current important research trends; (2) An analysis of current ideas on landscapes of arid areas with special relation to the arid southwest section of the United States and the Sahara.

Full course, Semester 2.

Mr. Berry, Staff.

214. GEOMORPHOLOGY AND ENVIRONMENTAL MANAGEMENT.

The interaction between human activity and geomorphic processes. Examination of the nature and appraisal of resources from a physical geographic perspective including minerals, soils and scenery.

Full course, Semester 2.

Mr. Prior.

218. PEDOLOGY: THE EARTH'S SOIL SYSTEM.

The concepts and principles of modern soil geography will be discussed. The present interpretation of soil processes as well as contemporary soil classifications will be developed.

Prerequisite: Geography 014.

Full course, Semester 1.

Mr. Prior.

221. APPLIED SURFACE WATER HYDROLOGY.

The course will focus on practical applications of hydrology for water resources management. Topics such as flood plane analyses, frequency analyses, and reservoir operation will be covered in detail following a quick review of the field. Prerequisite: Geography 014. or permission of instructor. Full course, Semester 2. Mr. Schwarz.

222. SEMINAR IN THE DYNAMICS OF CLIMATE AND SOCIETY.

A research seminar modeling the long-term interaction between climate and human activity. The simulation will employ system dynamics methods on the five million year history of the Tigris-Euphrates valley. For advanced students with an interest in cultural ecology and/or environmental modeling. Prerequisite: permission of instructor. (See also Science, Technology and Society 222.)

Full course, Semester 1.

Mr. Gould, Mr. Johnson, Mr. Kates, Mr. Steinitz.

229. PROSEMINAR: VICTORIAN BOSTON (HISTORICAL GEOGRAPHY).

Physical, architectural, economic, and ethnic dimensions of an expanding Victorian city. May be taken consecutively with and independently of History 229. (See also History 229.)
Half course, first half, Semester 1. Mr. Koelsch.

230. POLITICAL GEOGRAPHY AND ITS SPATIAL CONSEQUENCES.

Theory and methodology in political geography. Political processes and landscape interaction, at varying levels of the political hierarchy (national, urban, international). Attention to such topics as equilibrium, systems, decision-making, political action space. Open to juniors and seniors. Prerequisite: Geography 011. or Government 014.

Full course, Semester 1.

Mr. Cohen.

231. SEMINAR: POLITICS & THE ENVIRONMENT.

A state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or for advanced study. Topics include the concept of the public interest, public attitudes to the environment, regulatory agencies, decision-making theory, the role of Congress etc. A major seminar presentation and substantive research paper will be required. Prerequisite: permission of instructor. (See also Environmental Affairs 231.)
Full course, Semester 2.

232. URBAN POLITICAL GEOGRAPHY.

An analysis of contemporary research, with particular attention to theoretical and methodological issues. Topics will include public service delivery, community control and decentralization, urban electoral geography, locational conflict, districting, urban participation. A substantial seminar paper will be required. Prerequisite: permission of instructor. Limited to 20 students. Full course, Semester 1.

235. COASTAL ZONE MANAGEMENT SEMINAR.

Introduction to the problem of achieving beneficial use and protection of the land water resources comprising the coastal environment, with emphasis on the water's edge. Discussion of a broad range of topics relevant to the land-sea interface, including physical and ecological processes, the scope and extent of human activities, and incidence of adverse effects on ecological, economic, and amenity values. The legal aspects of land use regulation as applied to coastal areas will be explored, together with recent developments in state and federal legislation and administrative programs. (See also Science, Technology and Society 235.)

Full course, Semester 1.

Mr. Ducsik, Invited Guests.

242. PRINCIPLES OF BIOGEOGRAPHY.

The principles of biogeography are introduced. These include the study of the spatial distribution of plants and animals on a global scale. Man's impact on the distribution of vegetation is also considered.

Full course, Semester 1.

Mr. Howard.

243. SEMINAR IN BIOGEOGRAPHY.

The purpose of the seminar is to define the description of biogeography in terms of current philosophy and research in the field. Readings and short papers will be assigned. Full course, Semester 2. Mr. Howard.

245. HISTORICAL GEOGRAPHY OF THE UNITED STATES.

Not offered, 1976-77.

Primarily a study of economic and cultural patterns along the eastern seaboard from the earliest settlement to about 1914, with special emphasis on nineteenth century developments. Lectures will include economic phenomena, theoretical approaches, cultural phenomena, morphological and perceptual approaches. Mr. Koelsch, Mr. Peet. Full course.

247. INTERMEDIATE STATISTICAL TECHNIQUES.

A study of statistical methods and spatial statistics in geography. Topics will include estimation, hypothesis testing, simple and multiple regression, and correlation techniques. Canned computer programs will be used in case studies whenever possible. Prerequisite: introductory statistics. Full course, Semester 2.

248. MODEL BUILDING TECHNIQUES.

The elements of deterministic and stochastic simulation techniques are introduced. In addition, linear and dynamic programming are introduced. A term project is required. Full course, Semester 2. Mr. Howard.

253. HISTORICAL GEOGRAPHY OF NEW ENGLAND.

A lecture, seminar, and field course concerned with specific research problems in the historical geography of New England. including but not limited to (1) settlement patterns and the rural landscape; and (2) the structure of New England's ports as major problems. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Bowden.

256. COMPARATIVE SPATIAL SYSTEMS ANALYSIS.

This is a seminar covering partial and full equilibrium location models under different modes of production. Among the systems to be explored are perfect competition, imperfect competition under monopoly capitalism, state socialism, decentralized socialism, and anarchism. Theoretical models and possible empirical counterparts will be discussed. Full course, Semester 1. Mr. Feldman, Mr. Peet.

257. SPATIAL ASPECTS OF RESOURCE UTILIZATION.

Advanced theory of resources geography and economics. Includes cost-benefit analysis and environmental impact statements, partial and general equilibrium models of pollution control.

Full course, Semester 2. Mr. Warrick.

258. THE HUMAN GEOGRAPHY OF ANIMALS AND PLANTS.

Ecological and cultural relationships among plants, animals, and man are reviewed; and special attention is given to wild plant and animal resources, the process of domestication, human adaptation to and modification of local environments, collecting activities, and agricultural and pastoral economies. Ecological, historical, and comparative approaches will be employed on both global and regional scales among both traditional and modern societies.

Mr. Palmieri. Full course, Semester 1.

261. URBAN ECONOMIC GEOGRAPHY.

A systematic study of external and internal spatial relationships of cities and city systems. Urbanization viewed as a process in spatial organization involving mutual interrelations among decision units.

Full course, Semester 2.

Mr. Karaska.

264. CULTURAL ECOLOGY OF PASTORAL NOMADISM.

Comparative cross-cultural analysis of a number of pastoral nomadic resource use systems forms the focus of the course. Traditional nomadic adaptations to high altitude, warm desert, cold desert, and mid-latitude savanna grassland environments are examined. Alternative development strategies for modernization and social change within these systems will also be discussed. Case studies and the analysis of individual development projects, where appropriate, will be utilized. Prerequisite: permission of instructor. Full course, Semesters 1, 2, Mr. Johnson, Mr. Palmieri.

267. SEMINAR: AMERICAN GEOGRAPHIC THOUGHT, 1789-1939.

Development of early geographic ideas and institutions, both scientific and popular; emergence of professional geography of the late nineteenth and early twentieth centuries; student papers on selected major figures, themes and institutions in the era from Morse to Hartshorne.

Full course, Semester 2. Mr. Koelsch.

268. PHILOSOPHY OF GEOGRAPHY.

Critical examination of some major themes and schools of geographic thought. Prerequisite: course background in geography.

Full course, Semester 1. Ms. Buttimer.

270. TIME & SPACE IN THE CITY.

An attempt is made to examine selected themes and research models concerning the experience of people in urban milieux. Prerequisite: Geography 011, and 261. Full course, Semester 2. Ms. Buttimer.

273. HUMAN EXPERIENCE OF SPACE.

Exploring the notion of Lebenswelt (life world) as a meeting ground between geography and phenomenology. Full course. Semester 2. Ms. Buttimer.

275. CITIZEN PARTICIPATION. Not offered, 1976-77.

The purposes of this course will be: (1) to analyze major theories as to the causes and forms of participation in the polities; (2) to examine our understanding of participation in the context of alternative models (e.g. pluralist welfare state, elitist power structure, technological state) of the polity and; (3) to review contemporary citizen participation programs implemented by various governmental agencies. Limited to 20. (See also Government 275.)

Full course, Semester 2. Mr. Kasperson.

277. MARXIST RESOURCES THEORY.

A Marxist approach to the allocation and management of economic resources with particular attention to the African setting.

Mr. O'Keefe. Full course, Semester 2.

290. REMOTE SENSING OF THE ENVIRONMENT.

Course will concentrate on the use of remotely sensing instrumentation as a tool for the geographer. Students should develop a working understanding of the electro-magnetic spectrum as a guide upon which the geographer may choose a sensor or data for geographic investigation and as a basis for communication with others in the field. Hands-on experience with conventional aerial photo interpretation and Earth Resources Observation Systems data will be emphasized. Limited to 20 students. Mr. McCall.

291. BASIC MAP DESIGN.

Full course, Semester 2.

The course is designed to study the major elements of map

design: quantitative map symbols, map structure, the figureground relationship, lettering, and the use of color. Prerequisite:

introductory cartography.

Full course, Semester 1.

Mr. Chang.

292. CARTOGRAPHIC TECHNIQUES.

Positive and negative artwork and basic photographic methods for map presentation.

Full course, Semester 2. Mr. Chang, Staff.

295. WORKSHOP IN MAP DESIGN AND PRODUCTION.

Selected problems involving (1) computer mapping, or (2) development and analysis of effectiveness of alternative solutions to mapping problems.

Full course, Semester 1. Mr. Chang.

297. SEMINAR IN CARTOGRAPHY.

The seminar will focus on the development of concepts and models in thematic cartography and the role of maps in geographic research. Prerequisite: permission of instructor. Full course, Semester 2.

Mr. Chang.

300. READINGS IN GEOGRAPHY.

Directed readings for graduate students in an area of their choice. Prerequisite: permission of instructor.

Variable credit.

Semesters 1, 2. Staff.

301. RESEARCH IN GEOGRAPHY.

Research projects for graduate students leading, usually, to the dissertation proposal. Prerequisite: permission of instructor. Variable credit.

Semesters 1, 2. Staff.

307. SEMINAR IN DISASTER PREVENTION IN DEVELOPING COUNTRIES.

A critical examination of both the possibility and experience for pre-disaster planning and prevention activity to reduce economic and social costs of floods, droughts, tropical cyclones, and earthquakes. (Cross listed with International Development and Social Change.)

Full course, Semester 2.

Mr. O'Keefe.

317. SEMINAR IN PHYSICAL GEOGRAPHY.

A research seminar dealing with contemporary research with hill slope processes. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Prior.

330. SEMINAR IN POLITICAL GEOGRAPHY.

A research topic will be handled by one or more teams with research concentration on theory formulation and testing. Responsibility for supplementary undergraduate tutorial sessions in connection with the sessions which are organized around the background and interests of seminar participants is included.

Full course, Semester 2. Mr. Cohen.

333. TEACHING OF ENVIRONMENTAL MANAGEMENT.

A parallel course to Geography 013. to enable the staff to evaluate its educational experience.

Full course, Semester 1. Mr. Kates.

347. SEMINAR IN SYSTEMS ANALYSIS.

Designed to develop a closer familiarity with complex models. Students working as a group will either develop or adapt a complex system and test the output on the computer. Prerequisite: Geography 248. or permission of instructor. Full course, Semester 1. Mr. Howard, Mr. Schwarz.

360. SEMINAR IN ECONOMIC GEOGRAPHY.

Full course, Semester 2. Mr. Warrick.

361. SEMINAR IN URBAN ECONOMIC GEOGRAPHY.

Discussion, study, and research on individual urban problems. Full course, Semester 2. Mr. Karaska.

364. SEMINAR ON CURRICULUM DEVELOPMENT IN RECREATION GEOGRAPHY.

The purpose of the seminar is development of curriculum with supporting materials. It will be oriented toward college undergraduates and will stress learning in a problem context. Prerequisite: permission of instructor.

Full course, Semester 1. Mr. Knos.

365. SEMINAR IN ECONOMIC GEOGRAPHY.

Alternative approaches to location theory will be explored. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Peet.

368. ADVANCED TOPICS IN PHILOSOPHY OF GEOGRAPHY.

A series of discussions on selected "great books" which will provide a focus for clarifying some philosophical and methodological issues in geography.

Full course, Semester 2.

Ms. Buttimer.

396. APPROACHES TO GEOGRAPHY.

Paradigms, themes, and models in geographic thought, offered as part of the orientation program for entering graduate students. Includes field experience as a basis for identifying and validating existing problems.

Full course, Semester 1.

Mr. Knos, Mr. Cohen.

COURSES DIRECTLY RELATED TO GEOGRAPHY OFFERINGS

For descriptions and details, please refer to course ilstings within the departments.

Economics 228. ECONOMICS AND DEVELOPMENT.

Full course, Semester 1. Mr. Hsu.

Education 200. ENVIRONMENTAL EDUCATION WORKSHOP.

Full course, Semester 1. Mr. Knos, Mr. Halverson.

Education 203. INTERNSHIP: TEACHING GEOGRAPHY.

Two course value.

Semester 2. Mr. Knos.

Education 204. CURRICULUM DEVELOPMENT AND ANALYSIS.

Full course, Semester 1. Mr. Knos, Staff.

Education 205.1. METHODS OF TEACHING AND RESEARCH IN EDUCATIONAL SYSTEMS.

Full course, Semester 1. Mr. Knos, Staff.

Education 205.2. EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Full course, Semester 2.

Mr. Knos, Staff.

Education 206. AUTOBIOGRAPHY WORKSHOP.

Half course, Semester 1. Mr. Knos, Staff.

Education 217. INTERNSHIP TEACHING.

Half course, Semesters 1, 2. Mr. Knos.

Environmental Affairs 201. APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS.

Half course, first half, Semester 1.

Mr. Schwarz.

Environmental Affairs 202. THE BIOSPHERE.

Half course, second half, Semester 1.

Mr. Reynolds. Full cor

Environmental Affairs 203. MAN'S PERCEPTION OF HIS ENVIRONMENT.

Half course, first half, Semester 2.

Staff.

Environmental Affairs 204. ENVIRONMENTAL PLANS AND PROGRAMS.

Half course, second half, Semester 2.

Mr. Schwarz.

Environmental Affairs 210. ENVIRONMENTAL PROTECTION.

Full course, Semester 2.

Staff.

Environmental Affairs 231. SEMINAR: POLITICS & THE ENVIRONMENT.

Full course, Semester 1.

Mr. Kasperson.

Environmental Affairs 250. PRACTICAL PROBLEMS IN ENVIRONMENTAL AFFAIRS.

Two course value, Modular Term.

Staff.

Geology 11. INTRODUCTION TO PHYSICAL GEOLOGY.

Full course, Semester 1.

Ms. Rehmer.

Government 103. INTRODUCTION TO POLITICAL INVESTIGATION.

Full course, Semesters 1, 2.

Staff.

Government 211. THEORIES OF PEACEMAKING IN INTERNATIONAL RELATIONS.

Full course, Semester 1.

Mr. Marwah.

Government 215.1. PROBLEMS IN DEVELOPMENT POLICY: FOOD.

Full course, second half, Semester 1.

Ms. Schulz.

Government 226. POLITICS OF MIDDLE EAST.

Full course, Semester 2.

Ms. Schulz.

Government 228.1. SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: REPRESENTATION.

Full course, Semester 2.

Ms. Schulz.

Government 228.3. SEMINAR: PROBLEMS IN COMPARATIVE POLITICS: ETHNIC CONFLICT.

Full course, Semester 1.

Ms. Enloe.

Ms. Enloe.

Government 235. COMPARATIVE BUREAUCRATIC POLITICS.

Full course, first half, Semester 1.

Ms. Enloe.

Government 236. POLITICS OF SOUTHEAST ASIA.

Full course, Semester 2.

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Government 278. SEMINAR ON NUCLEAR ENERGY.

Full course, Semester 2. Mr. Kasperson, Mr. Hohenemser.

History 226. AMERICAN THOUGHT & CULTURE: 1740-1865.

Full course, Semester 1.

Mr. Koelsch.

History 229. PROSEMINAR: VICTORIAN BOSTON.

Full course, Semester 1.

Mr. Koelsch, Mr. Story.

I.D. 125. DEVELOPMENT PROBLEMS.

Full course, Semester 1.

Mr. Berry, Mr. Ford.

I.D. 206. AUTOBIOGRAPHY WORKSHOP.

Half course, Semester 1.

Mr. Knos.

I.D. 210. ECONOMIC PLANNING.

Full course, Semester 1.

Ms. Seidman.

STS 101. INTRODUCTORY CASE STUDIES.

Full course, Semesters 1, 2.

Mr. Hohenemser, Mr. Schwarz, Mr. Ducsik, Mr. Jones.

STS 201. ENERGY AND SOCIETY.

Full course, Semester 2.

Mr. Ducsik.

Sociology 247. URBAN SOCIOLOGY.

Full course, Semester 1.

Mr. Ross.

Geology

DEPARMENT FACULTY

Rudolph F. Nunnemacher, Ph.D., Professor of Zoology
*Laurence A. Lewis, Ph.D., Associate Professor of Geography
Judith Rehmer, M.A., Assistant Professor of Geology

A program in geology with a full-time geologist and the assistance of other faculty members has been reinstituted in the college for the academic year 1976-77. Course offerings in geomorphology are listed under physical geography.

While a major in geology is not currently available, students can plan a "self-designed major" which accomplishes the same purpose.

*On leave 1976-77.

COURSES

11. INTRODUCTION TO PHYSICAL GEOLOGY.

The important geologic concepts needed to both understand our planet's structure and provide the foundation for advanced study in the geological sciences will be covered. Recent findings in geophysics, geochemistry, oceanography, and space science will be related to the subject matter of classical geology. Lecture, lab.

Full course, Semester 1.

Ms. Rehmer, Mr. Lewis.

12. HISTORICAL GEOLOGY.

The geologic history of continents, oceans, and the evolution of life through the ages, with emphasis on the North American continent.

Full course, Semester 2.

Ms. Rehmer.

111. INTRODUCTORY MINERALOGY.

Study of crystallographic, physical, and chemical properties of common minerals. Field trip. Laboratory. Prerequisite: Geology 11

Full course, Semester 2.

Ms. Rehmer.

131. STRUCTURAL GEOLOGY.

Analysis of rock formation based on the principles of mechanics and the utilization of research data obtained from laboratory and field investigations. The principles of structural geology will be applied to the interpretation of major fold, fault, and fracture systems of the earth. Field trip. Laboratory. Prerequisite: Geology 11.

Full course, Semester 2.

Ms. Rehmer.

141. THE FOSSIL RECORD.

A systematic survey of the morphology, taxonomy, and geologic history of groups of organisms commonly found as fossils. The techniques and principles used for interpreting the fossil communities in terms of age and environment will be discussed. Field trip. Laboratory.

Full course, Semester 2.

Mr. Nunnemacher.

151. INTRODUCTORY FIELD METHODS. Not offered, 1976-77.

A survey course in field geology. Includes introductory methods in topographic and structural mapping, hydrogeology, and air photo interpretation. Numerous field excursions. Prerequisite: permission of instructor.

Full course.

Ms. Rehmer, Mr. Lewis.

161. SPECIAL PROJECTS.

Selected research topics in geology. Prerequisite: permission of instructor.

Full course.

Staff

171. ENVIRONMENTAL GEOLOGY. Not offered, 1976-77.

The application of geological specialties to environmental problems. Geologic processes, earth resources, and engineering properties of rocks and surficial deposits as important to human activities will be emphasized. Prerequisite: Geology 11. or Geography 014. Lecture and discussion.

Full course.

Mr. Lewis.

201. SEMINAR IN NEW ENGLAND GEOLOGY.

Geology of the Northern Appalachians with emphasis on orogenic events, paleogeographic reconstructions, plate tectonics models for Appalachian folding, post-tectonic sedimentation, glaciation. Individual projects. Three local field trips. Prerequisite: Geology 11. or 12. and permission of instructor.

Full course, Semester 2.

Ms. Rehmer.

German

(See Department of Foreign Languages and Literatures.)

Government and International Relations

DEPARTMENT FACULTY

John C. Blydenburgh, Ph.D., Professor of Government, Department Chairman

Morris H. Cohen, Ph.D., Professor of Government; Representative, Washington Semester Program Cynthia H. Enloe, Ph.D., Associate Professor of Government and International Relations; Director of the Graduate Program

Roger E. Kasperson, Ph.D., Professor of Government and Geography

Knud Rasmussen, Ph.D., Associate Professor of Government Ann T. Schulz, Ph.D., Associate Professor of Government and

International Relations

Sharon P. Krefetz, Ph.D., Assistant Professor of Government Onkar S. Marwah, Ph.D., Assistant Professor of Government and International Relations

Saul B. Cohen, Ph.D., Professor of Geography, Director of the Graduate School of Geography and Adjunct Professor of Government and International Relations

Sherman S. Hayden, Ph.D., Professor of International Relations, Emeritus

UNDERGRADUATE PROGRAM

The basic premise of the program in the Department of Government and International Relations is that the knowledge which is the product of political research is not different fundamentally from the knowledge that is useful to a political actor. The implication of this point for our program is that the same curriculum which effectively trains potential political actors, be they citizen or public servant, can prepare a person for a career as a scholar.

The identity of political science as a discipline, like most of the social sciences, suffers because there is not a non-academic profession associated with it. If there were, the problem of setting up program criteria would be trivial. We have no illusions about remedying this deficiency with a program designed to train professional politicians or government workers. Nevertheless, we sincerely hope that some of our students will go on to careers in municipal, state, and federal government and, of course, the many public careers outside government — journalism, law, public interest organizations, business, and education.

The aim of the department, therefore, is that all students who come in contact with us will be more competent political actors — at whatever level they choose — than they would have been had they not come in contact with us. For the government major we have the additional aim that he or she should be able to acquire from us knowledge which would complement a career in the practice or the study of public affairs.

The focus of politics is the future — what the state will be and what it ought to be. These, too, are the central problems for political science: the development of predictive theory based on a clear conception of the present; and the establishment of a critical perspective from which to evaluate and explore normative political theory. Therefore we see three components, three types of political education, that make up an effective political science curriculum: (1) a description of the present; (2) the concepts and skills useful for constructing predictive theory; (3) the intellectual skills necessary for critically evaluating normative theory.

Descriptive Component

First, an effective political science curriculum should provide useful information about politics and government; students exposed to the curriculum should have a knowledge of political and governmental institutions, their operations, their inter-relationships, and their role in political systems. The curriculum includes the provision of skills useful in measuring and analyzing information about politics and government. In short, the curriculum should provide an accurate description of the politics and government that students are likely to encounter in their lives after Clark.

Predictive Component

But information about politics and government is not sufficient for understanding. To understand means, at least in part, to have prudent expectations about the future: the effective political actor has to be able to make useful predictions. Thus we aim to provide models and theories with which students can use present information to make inferences about the future.

Normative Component

While political argument is enabled by uncertainty, it is necessitated by ideological disagreement. Thus the third component of an effective curriculum is the development of analytic skills useful for evaluating normative judgments about politics and government. The successful political actor, as citizen or professional, is constantly exposed to arguments about how the state ought to be. The critical thinker — the competent analyst of normative political argument - will be among the most effective participants in an open society.

The Government Major

The structure of the major is meant to accomplish the above three goals while providing for the non-major as a by-product. The major consists of program requirements and a sub-field specialization in which the major chooses to explore a narrower field in greater depth. In a costless world it would be difficult to choose an ideal set of sub-fields. Our position is that the subfields we offer should be those in which we feel competent: thus, until and unless resources change, we will regularly offer three: American politics, comparative politics, and international relations. While we will not foreclose other options, normally a major is expected to choose from among these three Exceptional students have the additional option of participating in the departmental honors program in the junior or senior year.

Program Requirements

The major is required to take a total of nine government courses, including Government 103

All majors are required to take Government 103: Introduction to Political Investigation. This course aims to introduce and develop skills in analyzing normative argument, formal political theory, and the principles of empirical investigation. The course is taught with a standard structure, aims, and assignments, but not with standard substance. All faculty teach one or more sections of this course annually. The substantive content of the course can vary with the instructor because the aims of the course can be achieved using readings and research from any of the conventional sub-fields of political science. Government 103. can be seen as a mini-curriculum which, regardless of its substantive content, prepares the major for the study of politics.

The relationship between politics and economics and between the respective disciplines is so fundamental that all majors are required to take Economics 11.

The remaining program course requirements are two: (1) one course in normative political theory and, (2) one course in research skills applicable to the major's sub-field. The normative theory requirement can be satisfied with any of the theory courses offered in the Department of Government and International Relations, though ordinarily we expect most students to meet the requirement with 205.1., or 205.2. The research skills requirement can be met with 107. (Research Methods in Politics), or with an appropriate course from another discipline. (A list of such courses is available in the Department of Government and International Relations Office.)

Subfield Specialization

The major must take one subfield introductory course, two additional government courses in that subfield, and three related courses from other disciplines. Three government courses must be selected from outside the subfield. (Lists of related courses for each subfield are available in the Department of Government and International Relations Office.) Each of these three major disciplinary subfields are themselves open to a variety of topical emphases, thus allowing flexibility for undergraduate course selection.

Honors students may use only one credit toward the subfield requirement, the remaining one or two credits being useful for the non-subfield government course requirement.

HONORS PROGRAM

Departmental Honors in Government and International Relations is a program intended to give exceptional students an opportunity to pursue an intensive course of study of their own choosing, under the direction of a member of the department faculty. The course of study can consist of formal course offerings, independent readings and research, or some combination of each. It culminates in an honors thesis. completed during the last term of the honors program. The program normally consists of one credit per term, and students can opt for a three-term or a two-term program, beginning in the second term of the junior year or the first term of the senior year.

At the conclusion of the program, students will be given a comprehensive oral examination covering the thesis and its field. According to the department's evaluation of the students' theses and comprehensive examination the faculty will decide whether to award each student Honors, High Honors, or Highest Honors.

Any government major with an exceptional academic record who is interested in pursuing an intensive course of study in a particular area is eligible to apply for admission to the honors program.

Application procedures

Normally deadlines for submission of completed applications are four academic calendar weeks prior to the beginning of the term in which the applicant wishes to begin a program. A complete application consists of a one or two-page typed proposal, a letter of recommendation from a faculty member in the department (usually the proposed honors adviser), and a transcript of the applicant's academic record.

Proposals from applicants to a three-term honors program consist minimally of identification of the topic of interest and a general statement of the approach to the topic.

Proposals from applicants to a two-term honors program are expected to be more substantial, containing a fairly specific statement of hypotheses or theories to be tested, questions to be explored, and the method and research to be used in the program.

Selection procedures

All applications are reviewed at a meeting of the faculty of the Department of Government and International Relations. Applicants are evaluated as to ability to work independently intellectual ability, the appropriateness of their acquired skills, and other factors which indicate the likelihood that each applicant can successfully complete the program. Applicants will receive notification of the department's decision. An applicant may be admitted in a provisional status, which means that his or her application will be reconsidered after one term's work and the department will then decide whether or not to admit the student to regular status in the program. Review or appeal of the decision can be made through the department chairman.

Special programs in the department include the Sherman S. Hayden Seminar in International Affairs, the Washington Semester Program under the auspices of the American University in Washington, D.C., opportunities to serve on the editorial board of the Student Journal of Politics, and the Sister Universities Exchange Programs.

GRADUATE PROGRAM

The department offers a program leading to the Master of Arts degree in Government or International Relations. It is expected to be of one year's duration, with a student finishing at the end of either the spring term or the Modular Term. The requirements are essentially those of the University as stated in the Graduate School section of this bulletin and include the department's graduate research methods seminar plus other courses of the student's choice in the Department of Government and International Relations or in other social science departments. A final oral examination and a master's thesis,

which may develop out of a research seminar paper, are also required.

Some tuition scholarships plus a limited number of teaching assistantships which carry stipends up to \$2,800, depending on time and duties involved, are available.

The degree of Doctor of Philosophy is being held in abeyance at the present time.

COURSES

PROGRAM AND GENERAL COURSES

103. INTRODUCTION TO POLITICAL INVESTIGATION.

What is politics? People in the world of politics — ideologies and the quest for power. Theoretical and empirical approaches to the study of politics are considered. Techniques of political analysis are applied in a variety of settings. Topics vary by section, but common assignments are used to develop research and analytical skills.

Staff. Full course, Semesters 1, 2.

107. RESEARCH METHODS IN POLITICS.

Students will be exposed to some of the basic tools useful for analyzing and creating data in political research. Included will be some elementary non-parametric statistics, hypothesis testing, and measurement theory.

Full course, Semester 1.

Mr. Blydenburgh.

Geography 125. DEVELOPMENT PROBLEMS.

Refer to course description under Geography 125. Mr. Berry, Ms. Enloe, Staff.

Geography 130. REGIONAL POLITICAL GEOGRAPHY.

Refer to course description under Geography 130. Mr. Cohen.

205.1. ROOTS OF POLITICAL THOUGHT.

A study of the development of Western political thought from the Socratic philosophies to Hobbes. The study will deal with the evolution of political thought in the context of influential, social, political, and economic forces.

Full course, Semester 1.

Mr. Rasmussen.

205.2. RECENT POLITICAL THEORY.

A study of modern political theory as developed in the context of the social, political, and economic forces which have shaped Western thought since the French Revolution. Full course, Semester 2. Mr. Rasmussen.

207. BLACK POLITICAL THOUGHT. Not offered, 1976-77.

A study tracing a conscious development within the Black community starting from the slave society and moving to the present. In the process, three lines of thought are developed: (a) the political thought of accommodation, (b) the political thought of protest and (c) the political thought of revolutionary confrontation. Prerequisite: permission of instructor. Mr. Rasmussen. Full course.

214. SEMINAR: BUSINESS AND POLITICS.

This course will examine the social responsibility of business to a community both from a theoretical and a practical point of view. The theoretical aspects will be explored through a series of assignments of major writers in this area. The practical aspects will be dealt with through the use of community resources in, for example, the legal, educational, and political sectors. This course will take the place of the tutorial program; it will therefore offer the latitude of individualized reports in specific areas of interest. Enrollment limited to 20.

Full course, Semester 2.

Mr. Rasmussen.

Geography 230. POLITICAL GEOGRAPHY AND ITS SPATIAL CONSEQUENCES.

Refer to course description under Geography 230. Mr. Cohen.

231. SEMINAR: POLITICS AND THE ENVIRONMENT.

A state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or advanced study. Topics include the concept of the public interest, public attitudes to the environment, regulatory agencies, decision-making theory, the role of Congress, etc. A major seminar presentation and substantive research paper will be required. Prerequisite: consent of the instructor. Mr. Kasperson. Full course, Semester 2.

232. POLITICAL THEORISTS AT WORK. Not offered, 1976-77.

Under the Department of Government and International Relations "Redesigned Major," this course will be one of several titled "Political Theorists at Work" that will be required for majors. Each such course will focus on a single political thinker whose work has influenced the way we conceive of governance and the state. Open to majors and non-majors. Previous courses in government, philosophy, intellectual history, or social theory encouraged. Full course. Staff.

278. SEMINAR ON NUCLEAR ENERGY.

Major issues surrounding the implementation of nuclear electric power. On the technical side, the focus will be on salient aspects of nuclear technology, risk assessment, the prospects for the breeder, and the special economic problems of capital intensive, long-term investments. On the societal side, the focus will be on problems of nuclear power regulation, safety policies, accident liability, siting policy, and assessments of public attitudes. (See also Science, Technology and Society 278.) Full course, Semester 2. Mr. Hohenemser, Mr. Kasperson.

295. ECONOMIC THEORIES OF POLITICS.

This course will review some important recent political theories which make use of economic concepts in attempting to explain political phenomena. Emphasis will be placed on evaluating the theory in terms of its success in accounting for established empirical propositions as well as its prescriptive uses and normative implications. Some of the subjects covered will be a general theory of representative government, a theory of the organization and formation of groups, and some theories of voting systems.

Full course, Semester 2. Mr. Blydenburgh.

297. HONORS IN GOVERNMENT AND INTERNATIONAL RELATIONS.

Variable credit, Semesters 1, 2. Staff.

298. APPLICATIONS OF GAME THEORY TO POLITICS. Not offered, 1976-77.

After covering the basic concepts of game theory, the course will pursue applications to a variety of classes of political conflict; to strategy in international relations; to political campaign decision-making, and to theories of the formation of political coalitions.

Full course. Mr. Blydenburgh.

370. POLITICAL SCIENCE RESEARCH: TECHNIQUES AND METHODS.

The major concern of the seminar will be with gaining an understanding of those social science techniques and methods which are most appropriate to conducting political science research. The course will begin with consideration of how one develops a research design, generates hypotheses, and builds theories. General topics to be discussed include causal thinking,

the notion of controls, and the concepts of validity and reliability. Specific topics will include survey research, aggregate analysis, content analysis, simulation, correlation and regression analysis, and factor analysis. In addition, special attention will be given to problems involved with doing crosscultural research and analyses through time. Open to graduate students and, with permission of the instructor, to advanced undergraduates.

Full course, Semester 1.

Ms. Krefetz.

READINGS, RESEARCH AND THESIS COURSES 88. DIRECTED READINGS.

Variable credit.

Semesters 1, 2.

Staff.

89. SPECIAL PROJECTS.

Variable credit.

Semesters 1, 2.

Staff.

360. GRADUATE READINGS COURSES.

Variable credit.

Semesters 1, 2.

Staff.

361. GRADUATE THESIS COURSE.

Variable credit

Semesters 1, 2.

Staff.

AMERICAN POLITICS

150. INTRODUCTION TO AMERICAN GOVERNMENT.

An introductory study of the processes and efficacy of the American governmental system. Primarily devoted to an overview of contemporary aspects of the national government, the course includes problems of federalism, salient civil liberties issues, and the roles of Congress, the President, the Supreme Court, and political parties in the decision-making process. Full course, Semester 1. Mr. Cohen.

204. SEMINAR IN AMERICAN PRESIDENCY.

Not offered, 1976-77.

A study of the Constitutional and other powers and functions of the President and the Presidency via selected readings and individual research.

Full course.

Mr. Cohen.

219. WOMEN AND POLITICS.

An exploration of the political behavior of American women and of the factors which condition their behavior, including: socialization and learning of sex roles; social background and life situation variables; and historical arrangements of political institutions. Among the questions to be considered are: Why are women generally less interested, less active, and less efficacious politically than men are? What are the characteristics of those women who do engage in political activity? What is the likely impact of the Women's Liberation Movement and women's issues on the future behavior of women in politics? Prerequisite: one previous government course. Full course, Semester 2. Ms. Krefetz.

220. URBAN GOVERNMENT AND POLITICS.

Not offered, 1976-77.

The primary focus of this course is on the various socioeconomic and political inputs that affect the functioning of American urban political systems. What are the resources and constraints which the inputs place upon and provide for the decision makers? Topics to be discussed include: the social, economic and political nature of the city; the effects of the state and federal governments; relations between city and suburb; political structures and styles; the distribution of power, and

race; ethnicity and ethos theory. In the later part of the course, some attention will be given to differences in urban policy outputs, primarily in the fields of education and welfare. Where relevant, differences and similarities in the politics of urban areas outside the United States will be considered. Open to sophomores, juniors, and seniors. Full course. Ms. Krefetz.

221. SUBURBIA: PEOPLE AND POLITICS.

The growth of suburbs in the United States since the end of World War II has had considerable impact upon the nature of our metropolitan areas. Why has this growth occurred? What are the characteristics of the people who live in suburbs? Is suburban homogeneity a myth or reality? How are suburbs governed? What is political participation like? What sorts of issues are important to suburbanites? Is there a national suburban policy? Ought there to be one? These are the major questions to be explored in this course. Open to sophomores, juniors, and seniors. Full course, Semester 1. Ms. Krefetz.

222. SEMINAR: PUBLIC POLICIES AND AMERICAN CITIES. Not offered, 1976-77.

What difference does it make "who governs?" What sorts of variations are there among cities in their policy outputs in such areas as welfare, education, poverty, health, the police, and the criminal courts; and what accounts for the differences? After a critical review of the existing literature, research will be conducted on a policy area of the student's choosing in Worcester and/or other cities. Prerequisite: Government 220. Full course. Ms. Krefetz.

223. SUBURBAN POLICY ISSUES.

This seminar will pick up where the introductory suburban politics course leaves off and explore politics and policy-making on several major issues in suburban communities, e.g. zoning and land use, education, and property taxes. Students will conduct original research on these issues in Worcester and Boston suburbs. Prerequisite: Government 221. or permission of instructor. Limited to 15 students. Full course, Semester 2. Ms. Krefetz.

225. POLITICS OF BUREAUCRACIES. Not offered, 1976-77.

Bureaucrats are among the most neglected — and influential actors in contemporary politics. This course will examine the dynamics of bureaucratic politics in the U.S., with a special concern for federal level departments. Some of the questions to be pursued are: How much control does the White House exercise over federal agencies? Has "Watergate" had a lasting impact on bureaucratic operations? Why are some departments, such as Treasury and Defense, so much more influential in bureaucratic competition than others? How do bureaucrats cultivate their clienteles? Open to majors and non-majors. Some previous courses in government will be helpful. Full course. Ms. Enloe.

251. AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS.

A study of the structure and functioning of the American party system and the role of selected interest groups in American politics including some ethnic and economic influences. Special emphasis is placed on the processes and problems involved in the nomination and election of the President, Prerequisite: American Government desirable but not required. Full course, Semester 1. Mr. Cohen.

254a,b. AMERICAN CONSTITUTIONAL LAW. 254a. - Not offered, 1976-77.

A study of the major developments and problems of American Constitutional law and judicial behavior approached primarily by analysis of court cases. Government 254b. explores the area of

civil liberties and includes such issues as freedom of speech, press, and religion; civil rights; and selected aspects of the rights of a person accused of a crime. Emphasis is placed on recent and contemporary developments and on class discussion. Prerequisite: permission of instructor. Mr. Cohen.

254b., Semester 2.

255. SEMINAR IN THE LEGISLATIVE PROCESS.

A study of policy making in Congress, involving problems of legislative organization and procedure, leadership, and presidential-legislative relationships; examined primarily by the case method and by individual research on particular pieces of recent legislation. Prerequisite: permission of instructor. Limited to 10 students.

Full course, Semester 2.

Mr. Cohen.

260. POLITICS OF ENVIRONMENTAL MANAGEMENT.

Not offered, 1976-77.

This course involves case method analysis applied to fictional cases of decision-making on environmental issues. Students will be expected to "solve" the case problems and to defend their solutions. The cases are designed to illustrate the intertwining of environmental problems with political considerations. Particular attention is devoted to the value issues implicit in such decisions, the constraints upon different actors in the decision process, and the need for certain political skills. Cases are augmented by a reading period and guest speakers. Limited to 20 students.

Full course.

Mr. Kasperson.

Not offered, 1976-77. 275. CITIZEN PARTICIPATION.

The purposes of this course will be: (1) to analyze major theories as to the causes and forms of participation in the polities; (2) to examine our understanding of participation in the context of alternative models (e.g. pluralist welfare state, elitist power structure, technological state) of the polity and; (3) to review contemporary citizen participation programs implemented by various governmental agencies. Limited to 20 students. (See also Geography 275.)

Full course, Semester 2.

Mr. Kasperson.

Not offered, 1976-77. 294. ELECTORAL BEHAVIOR.

Contemporary studies of voting behavior will be used to explore the meaning of elections as the linkage between government and citizenry. The course will address the questions of who votes and why, and it will aim to identify and explain long term trends in elections by focusing on the theory, methods and data of recent political research.

Full course.

Mr. Blydenburgh.

COMPARATIVE POLITICS

106. COMPARATIVE POLITICAL SYSTEMS.

The course approaches the pitfalls and rewards of comparative analysis from three directions. First, we will concentrate on a single foreign political system in all its complexity (e.g., Britain, Mexico, Japan, etc.) Second, we will look at one political issue (e.g., pollution, crime, land reform) to see how several different countries cope with demands. Finally, we will examine one concept used by political scientists to compare political systems (e.g., recruitment, ideology, etc.). Open to majors and non-majors. Full course, Semester 1. Ms. Enloe.

167. REVOLUTION AND POLITICAL VIOLENCE.

Not offered, 1976-77.

Seminar. The roots of political violence and revolution — social change, political legitimacy and individual psychology. Specific revolutions studied through the writing of participants, popular

writers and political analysts. External intervention in domestic rebellions. Limited to 25 students.

Ms. Schulz.

215.1. PROBLEMS IN DEVELOPMENT POLICY: FOOD.

Food and malnutrition will be considered in their political aspects. Focus is upon decisions which affect the production and distribution of food within "fourth world" states. Attempts to intervene at the international level will be reviewed. The influence of U.S. government policy upon food supplies is

Full course, second half, Semester 1.

Ms. Schulz.

226. POLITICS OF THE MIDDLE EAST.

Political change within Middle Eastern countries from North Africa to Afghanistan. Attention given to social structure, styles of political competition, leaders and ideologies, and the relationship between political and economic life. Ms. Schulz. Full course, Semester 2.

228.1. SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: REPRESENTATION.

Political representation in theory and practice. Several concepts of representation are assessed in terms of their implications for popular control over policy-making and of their relevance to the solution of social problems. Case studies of representative systems in practice are drawn from West Africa, Mexico, and medieval Europe.

Full course, Semester 2.

Ms. Schulz.

228.3. SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: ETHNIC CONFLICT.

This seminar will explore the meaning of "ethnicity" for groups as different as South African Afrikaners, Iraqi Kurds, and French Canadians in the context of political development and political conflict. Some previous study of comparative politics, history, or sociology will be very useful.

Full course, Semester 1.

Ms. Enloe.

233. INEQUALITY AND POLITICAL DEVELOPMENT.

Not offered, 1976-77.

Seminar. Social inequality, income distribution and political change. The political economy of modernization through studies of international capital relations, state socialism and subsistence agricultural economies. Redistribution policies and political conflict. Limited to 20 students. Ms. Schulz. Full course.

235. COMPARATIVE BUREAUCRATIC POLITICS.

In both industrialized and developing nations, bureaucratic departments have become critical to policymaking and implementation. This course will use cases from Europe, Africa, and Asia to test generalizations about bureaucrats' impact on their political systems.

Full course, first half, Semester 1.

Ms. Enloe.

236. POLITICS OF SOUTHEAST ASIA.

This course analyzes the changes, or blockage of changes, that have occurred in the area since 1945. Social, economic, cultural, and foreign factors shaping politics are examined. All countries will be discussed but focus will be on Malaysia, Indonesia, the Philippines, and Vietnam.

Full course, Semester 2.

Ms. Enloe.

237. POLITICS OF SCANDINAVIA.

This course will analyze twentieth-century political thinking with specific reference to Scandinavian thought and political systems. The examination will be of major trends as they constitute either unique Scandinavian developments or reflect a

broader European pattern of thinking.

Full course, Semester 1. Mr. Rasmussen.

265. POLITICS OF JAPAN.

Not offered, 1976-77.

Japan is considered today one of the world's four great powers. Yet its internal political dynamics are not widely understood by Americans. This course will explore the major factors that have shaped Japanese politics and government policies since 1945. Among the topics that will be analyzed are: the group loyalties of Japanese; the factional rivalries within major parties; the influence of bureaucrats; the ambivalence that plagues Japan's foreign relations. The course is open to majors and non-majors. Those interested in pre-1945 Japan are urged to take the course offered in History. Some previous courses either in government or in Asian studies are helpful. Full course. Ms. Enloe.

INTERNATIONAL RELATIONS

169. INTRODUCTION TO INTERNATIONAL RELATIONS.

The course will seek to develop a general understanding of international relations study. It will focus on problems of conceptualizing the international system, issues of theoretical inquiry, and the interaction of states in analytical form. Current international relations will be drawn upon to illustrate the complexity of interstate relations. No prerequisite. Full course, Semester 1. Mr. Marwah.

196. CONTEMPORARY INTERNATIONAL POLITICS.

Not offered, 1976-77.

The interactions of Superstates, Middlestates, and Smallstates; International Politics vs. International Society, i.e, the ambivalent roles/needs of: Nation and World, War and Peace, Power and Weakness, Prosperity and Poverty, Freedom and Oppression, Perception and Illusion, Activity and Apathy, Revolution and Stability, Identity and Transformation; Cooperation and Conflict as the ongoing process of inter-state relations.

Full course.

Mr. Marwah.

211. THEORIES OF PEACEMAKING IN INTERNATIONAL RELATIONS.

The course will consider approaches to ameliorating international conflict within the givens of the international system. Theoretical efforts at understanding world issues from a transnational perspective will be discussed. Practical problems facing such efforts will be evaluated. Propositions about the future will be attempted. To be offered in alternate years. Limited to students with instruction in basic international relations courses.

Full course, Semester 1.

Mr. Marwah.

212. PROBLEMS IN INTERNATIONAL RELATIONS: LAW AND POLITICS OF THE SEAS.

More than 110 states with approximately 200,000 nautical miles of coastline abut the international seas. If they extend their jurisdictions to 200 miles beyond the coast, about 36% of the ocean's surface will be removed from free access for all nations. Allied to the political effects of what may become "the biggest land (sea) grab in history" are questions relating to exploitation of the resources of the sea-bed; regulation and control of fisheries; control of pollution; Freedom of navigation in international straits. The course will assess the conflict of interests which have arisen in recent years concerning the high seas, and what efforts are underway for sharing their usage. Limited to students with background in law, economics, or international relations. To be offered every year. (The topic for seminar will change according to saliency of issue or regional focus of course outline.)

Full course, Semester 2.

Mr. Marwah.

234. THE ARAB-ISRAELI CONFLICT. Not offered, 1976-77.

The historical background of the Arab-Israeli conflict, external involvement in the area, military outcomes, and negotiating strategies. Israeli and Arab state foreign policies, Palestinian nationalism, and the United Nations. Weapons flows and strategies.

Full course.

Ms. Schulz.

239. THE UNITED STATES IN WORLD AFFAIRS.

The 'first new nation'; the stages of role-change from small power to super power; American nationalism and internationalism; insular republic and global actor; the American paradigm and American power in relation to other states; conflictual interests of the American state in the post-Second World War period: the strategic interaction of American and Soviet ideologies; the parallel demands of humanism and realpolitik in American foreign policy. No prerequisites. To be offered every year.

Full course, Semester 2.

Mr. Marwah.

264. "STATES AND STRATEGIES IN THE INDIAN OCEAN REGION." Not offered, 1976-77.

Understanding the strategic interaction of great, middle and small powers in the western half of the Indian Ocean and the land territory of West Asia-Northeast Africa. The course will evaluate tensions and conflicts developing in the area over land or crucial raw materials and their impact on the international system. Prerequisite: upper division students with background in international relations. Limited to 15 students. Full course. Mr. Marwah, Ms. Schulz.

291. THE POLITICAL ECONOMICS OF CHINA AND INDIA. Not offered, 1976-77.

Seminar on changing Man and Society in two large non-Western environments: developing frameworks of analysis for comparison and contrast between China and India, and thereafter, with Western models of society. Prerequisite: upper division students with some background in economics and history. Limited to 15 students. Full course. Mr. Marwah.

292. NUCLEAR WEAPONS POLITICS.

Seminar on the international political effects of the spread of nuclear weapons and technology. The following types of questions will be raised: How did the nuclear age unfold? What role did pioneer states assign to nuclear weapons as instruments of statecraft? What lessons have succeeding states imbibed? What can be expected in the future? Can nuclear weapons be controlled by international agreement? The objective will be to assess the ways in which nations may cope with the Janus-face results of the nuclear sciences as they affect the bases of international power and influence. Limited to students with instruction in basic international relations courses. To be offered every year.

Full course, Semester 2.

Mr. Marwah.

Hebrew

(See Department of Foreign Languages and Literatures)

History

DEPARTMENT FACULTY

George A. Billias, Ph.D., Professor of American History Robert F. Campbell, Ph.D., Professor of American History* Tamara K. Hareven, Ph.D., Professor of American History***

Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt

Professor of European History

Daniel R. Borg, Ph.D., Associate Professor of European History Richard B. Ford, Ph.D., Associate Professor of Comparative History, Co-director, International Development and Social Change

Ronald P. Formisano, Ph.D., Associate Professor of American

History*1

Paul Lucas, Ph.D., Associate Professor of European History William Koelsch, Ph.D., Associate Professor of Geography and History, University Archivist

Michael R. Godley, Ph.D., Visiting Assistant Professor of Asian

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Marcus A. McCorison, M.S., Lecturer in American History, Director of the American Antiquarian Society

Emanuel Goldsmith, Ph.D., Visiting Lecturer in Jewish History Herbert Rosenblum, Ph.D., Visiting Lecturer in Jewish History Thomas C. Barrow, Ph.D., Professor of American History (Affiliate)

Michael Sokal, Ph.D., Associate Professor of History of Science and Technology (Affiliate)

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On leave of absence, 1976-77:

*Semester 1.

**First half Semester 1, and Semester 2.

***Semesters 1 and 2.

UNDERGRADUATE PROGRAM

History is a popular and essential part of any program of undergraduate studies. It provides students with an insight into their own individual and collective past in American and, to some extent, European history as well. It also introduces them to the non-American, non-western world by giving them some understanding of the historical evolution of other peoples and cultures. By a longstanding tradition, the Clark Department of History encourages its students to take a world-wide view and to compare the conditions and fortunes of different parts of the world.

Undergraduate Major

A student majoring in history takes nine courses of history. Of the advanced (200 level) history courses in a major's program, at least two courses must be in American history and another two courses in non-American history. An additional three courses must be taken in economics, geography, government, psychology, or sociology (as related fields).

The department recommends, though it does not require, that its undergraduate majors attain proficiency in at least one modern foreign language. Students planning to go on to graduate school are advised that demonstration of competence in one or more appropriate foreign languages is an important consideration in the admissions and fellowship award process of most leading universities. Students should also note that a knowledge of statistics and computer usage is highly desirable for advanced work in history.

Special Programs

Majors in history are encouraged to plan, in consultation

with their advisers, a coherent program of study. Special attention should be paid to opportunities for interdisciplinary programs. Students should also explore opportunities under the new program being prepared for the Extended History Major in the projected University-College. That program envisages interdisciplinary "tracks" of concentration in American, European, Russian, East Asian, and African history, with additional options for specialized interests within each of these tracks.

Whatever special programs students choose to pursue, the department recommends (but does not require) that they submit to the faculty adviser in writing, a statement of the programs' purposes together with a tentative list of courses.

Students may extend the scope of their undergraduate programs through the offerings of cooperative colleges in Worcester, by independent study and research, and in the Honors program in history. Further information about these matters is available from the department chairman or other members of the department. See also the Note under DEPARTMENT COURSES below.

GRADUATE PROGRAM

The areas of graduate study at Clark are American history and modern European history, with select non-western history as supporting fields. Emphasis is placed on American history because of the department's affiliation with the American Antiquarian Society, which provides graduate students with the facilities of one of the country's finest research libraries, with over 750,000 volumes and many valuable manuscripts relating to early American history down to 1876. A dozen smaller libraries in Worcester, with combined holdings of over a million volumes, further extend the resources of the Clark library, as does easy access to Boston, Providence, and New Haven area research facilities.

The department offers graduate work in the form of reading seminars (colloquia), research seminars, and individual tutorials for both reading and research purposes. First and second year students take three courses each semester; one of these courses must be expressly devoted to research for the purpose of producing a substantial research paper. Beyond their research seminar, students fill out their program by taking colloquia, additional research seminars, and upper-division undergraduate courses. The chairman assigns incoming graduate students to faculty advisers, who help design their programs. With the permission of the adviser, a student is encouraged to take suitable courses in other departments or Consortium colleges. Master of Arts

The department enrolls a limited number of terminal master's candidates and awards the degree to students who have completed the work of eight courses and a one-year residence requirement; have (1) either submitted two substantial research papers prepared in two seminars which are jointly equivalent to the master's thesis, or (2) submitted a master's thesis; and have passed the required oral examination.

Ph.D. candidates who have passed their preliminary examination, whether or not they will continue with a dissertation, may also receive the degree of Master of Arts.

DOCTOR OF PHILOSOPHY

The traditional doctoral program is designed to enable students to master the discipline of history through research, reading, and teaching. In addition to meeting the seminar and course requirements outlined above, a student who enters without an M.A. degree must spend at least three years in full-time residence at Clark, satisfy the language requirement, gain some experience in college teaching, pass the preliminary examination, and write a doctoral dissertation within seven years of matriculation.

Language Requirement: Students concentrating in American and British history must pass an examination in one

foreign language: French, German, Spanish, or Russian. Students concentrating in American history may substitute a program in quantitative techniques or computer science for a foreign language. Those specializing in European history must pass examinations in two foreign languages, normally French and German. The chairman will designate an examiner in each language, who will determine whether the student is proficient enough to use the language as a research tool. An entering student must take a language examination as soon as it is offered in the first semester of residence, and must have passed this examination by the end of the first calendar year of residence in order to register for the second year. If required, the second language examination should be attempted early in the second year and must be completed before the student registers for the third year. All language requirements must be satisfied before the preliminary oral examination can be scheduled.

Teaching Experience: Some teaching experience at the college level is a prerequisite of the Ph.D. degree. Students normally meet this requirement in their second or third years as

teaching assistants.

Fields: Soon after arriving at Clark, each student, in cooperation with his/her adviser, defines four fields and prepares for them in whatever ways seem appropriate in view of her/his background and interests. Students specializing in American history normally offer the full scope of American history as two fields. Those concentrating in non-American history normally offer one American field (the dividing line between the two American fields generally falls at 1815). Any student may offer a non-historical subject as a field, usually within the social sciences, or prepare an interdisciplinary field.

Preliminary Examination: One of the four fields must be offered for oral examination at the end of the student's first year. Prior to taking the oral, the student must submit two research papers completed in the first year. The remaining three fields will be examined, again orally, at the beginning of the student's third year. The combined oral examinations constitute the "preliminary examination" required by the Graduate Board. Students who have passed their preliminary examinations may, upon request, receive the degree of Master of Arts.

Dissertation: Students are advised to consider and explore dissertation topics during their years of residence and to choose a possible dissertation adviser as soon as possible. The process of writing a dissertation is outlined in a brochure, "Dissertation S.O.P.," which may be obtained from the department secretary.

Deadline for Completion: All work required for the doctor's degree must be completed within a seven-year period after matriculation. In unusual circumstances only, such as involuntary military service or extended illness, the department may grant a specified extension of time.

Note: The course offerings below do not include courses that may be taken through the Consortium of colleges in the Worcester area. The department recommends especially that students consider courses at the College of the Holy Cross in medieval, Renaissance and Reformation, and Latin American history.

DEPARTMENT COURSES

NOTE: Undergraduate courses are of two types: (1) designed for freshmen and numbered 100-199, and (2) advanced courses numbered 200-299. The latter carry no prerequisite (unless especially noted) and are open to qualified freshmen without the consent of the instructor. In case of doubt, freshmen should consult their advisers and the instructor. The term "proseminar" indicates courses of limited enrollment which combine reading, discussion, and written reports or term papers.

COURSES FOR FRESHMEN

110. INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

Introduction to basic problems of interdisciplinary study and

historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. (See also English 130)

Full course, Semester 1. Mr. Ford, Mr. Formisano, Mr. Parsons.

114. CHINA TO 1880.

Lecture and discussion course on pre-modern China. The stress will be on the development of Chinese thought and society. No previous work in Chinese history is required.

Full course, Semester 1.

Mr. Godley.

115. CHINA 1800 TO THE PRESENT.

Lecture and discussion course focusing on the breakdown of imperial China and the establishment of a new order. Most of the course will be devoted to a study of China's twentieth century revolution. No previous work in Chinese history is required. Full course, Semester 2.

Mr. Godley.

120. THE BASEBALL SCANDAL OF 1919: AN INTRODUCTION TO HISTORICAL INQUIRY.

An investigation of the "fixed" World Series of 1919 and its repercussions, through primary historical materials. Students learn to construct a plausible narrative, to analyze baseball as a commercialized leisure industry, and to consider the changing nature of work and achievement in modern times, all within the context of construing a particular historical episode.

Full course, Semester 1. Mr. Story.

122. RACE AND ETHNICITY IN AMERICAN HISTORY.

This course will explore the changing racio-ethnic cultural configuration and social stratification through U.S. history. Beliefs and ideas reflecting racial and ethnic patterns will be examined to comprehend the intellectual tradition which imparted meaning to this changing social reality. Using social and intellectual history, then, this course has as its purpose an evaluation of the importance of race and ethnicity as dimensions of American history.

Full course, Semester 2. Mr. Billias.

132. MAJOR THEMES IN AMERICAN CULTURE.

An in-depth study of selected major themes and institutions in American Culture. Critical examination of the "American-ness" of such themes as Democracy, Individualism, Romanticism, Pragmatism, and Imperialism will focus on seminal, wideranging historical texts (e.g. Tocqueville's *Democracy in America;* Adams' *Education*). Literary works which express and evaluate these themes will complement this focus. Historical and literary readings will vary from year to year. (See also English 132.)

Full course, Semester 2. Mr. Campbell, Mr. Parsons.

140. HISTORY OF EUROPE FROM THE "FALL" OF ROME TO THE PRESENT.

A lecture course intended to familiarize would-be majors in history, as well as non-majors, with the basic outlines of the development of Western society.

Full course, Semester 1, Modular Term.

Mr. Lucas.

180. THE HISTORY OF TRADITIONAL AFRICA.

An introduction to the history of Africa south of the Sahara. The course will begin with the early civilizations of Kush, Axum, Ghana, Maili, Songhai, Benin, the Zanj, Kongo, and Zimbabwe and continue through to the arrival of Europe. Attention will be given to eastern, western, and southern Africa. The approach will be largely historical and anthropological.
Full course, Semester 1.

Mr. Ford.

181. THE HISTORY OF MODERN AFRICA.

An introduction to recent African history, especially south of the Sahara, but not to the exclusion of events in North Africa. The course will consider the impact of European institutions on Africa and Africans. Topics will include the slave trade, colonization, independence, post-independence, liberation, and development (or non-development). The approach will be both historical and economic with some attention to anthropological questions.

Full course, Semester 2.

Mr. Ford.

AMERICAN HISTORY - PERIOD COURSES

201. AMERICA'S FORMATIVE YEARS.

The basic institutions of American civilization and the prevailing attitudes of the present were shaped in large measure during the colonial era. This course will deal with the foundations of such institutions as the family, church, and local community in America as well as the development of representative political institutions. There will also be an examination of American attitudes toward race, religion, class distinctions, cultural ethnocentrism, and imperial relations with the mother country during the same period. The aim of the course will be to analyze the reasons for two major tendencies that seemed to develop in the American colonies: the erosion of traditional European attitudes toward authority; and the emergence of a psychology of accommodation resulting from the pressures arising from the increasingly pluralistic character of the population. Full course, Semester 1. Mr. Billias.

203. ERA OF THE AMERICAN REVOLUTION.

An analysis of American society in the pre-Revolutionary period with particular emphasis upon the ideological and political developments that led to the War of Independence.

Full course, Semester 1.

Mr. Billias.

205. FORMATION OF THE NEW NATION.

An analysis of the American revolutionary experience, political theories in the making of the federal Constitution, problems of the new government, and developments in the American political tradition through the Jeffersonian era.

Full course, Semester 2.

Mr. Billias.

208. U.S. POLITICAL HISTORY 1828-1896.

Not offered, 1976-77.

An introduction dealing with the emergence of basic institutions, conflicts, and processes which became characteristic of modern American politics. Emphasis on political parties, voting, social movements, ideology. Full course.

Mr. Formisano.

218. THE U.S. IN THE 20TH CENTURY.

Not offered, 1976-77.

The American experience since about 1900 with emphasis upon the role of government in economic life and the emergence of the United States as a world power.

Full course.

Mr. Campbell.

AMERICAN HISTORY - TOPICAL COURSES

220. AMERICAN URBAN HISTORY.

A survey of the economies, politics, patterns of mobility, spatial configurations, and cultural institutions of representative cities in four eras of American history; 1750-1780, 1820-1850, 1890-1920, and 1950-1980.

Full course, Semester 2.

Staff.

221. AMERICAN SOCIAL HISTORY TO 1865.

A survey of American social development with special emphasis

on work, family relations, social structure, and cultural expression in four worlds: the Puritans, the middle colonists of the eighteenth century, the ante-bellum slaves and planters, and the bourgeois democrats of the victorious North.

Full course, Semester 1.

Mr. Story.

222. AMERICAN CONSTITUTIONAL HISTORY.

Not offered, 1976-77.

The origins and development of the American constitutional system with special reference to the role of the Supreme Court. Full course.

Mr. Campbell.

223. PROSEMINAR: AMERICAN CONSTITUTIONAL AND LEGAL HISTORY. Not offered, 1976-77.

With emphasis on the relationship of law to American society, this course deals with selected topics in the history of American law such as the Americanization of the common law, the foundations of American constitutionalism, the law of slavery and freedom, law and economic development, trends in legal thought and in the legal profession. Prerequisite: History 222. Full course.

Mr. Campbell.

224. AMERICAN ECONOMIC HISTORY. Not offered, 1976-77.

A study of the American economy from colonial times to the present, with emphasis on the factors contributing to economic growth.

Full course.

Mr. Campbell.

225. AMERICAN SOCIAL HISTORY SINCE 1865.

A survey of American social development with special emphasis on the development of the West and South, the rise of corporate capitalism, the creation of mass culture, the growth of the public sector, and the crises of the era of the Cold War.

Full course, Semester 2.

Mr. Story.

226. AMERICAN THOUGHT AND CULTURE: 1740-1865.

Studies in the consciousness of selected Americans under differing conditions of time, place, and circumstance. Emphasis on the reading and analysis of primary texts. Field and laboratory exposure to music, art, architecture, and landscape analysis. Full course, Semester 1.

Mr. Koelsch.

227. AMERICAN THOUGHT AND CULTURE, SINCE 1865.

Main currents in American intellectual history since the Civil War, with emphasis upon social and political thought.
Full course, Semester 2. Mr. Campbell.

228. PROSEMINAR: GOVERNMENT AND THE ECONOMY. Not offered, 1976-77.

Topics in the history of the role of federal and state governments in the promotion and regulation of the American economy.

Full course.

Mr. Campbell.

229. PROSEMINAR: VICTORIAN BOSTON.

Intellectual currents, cultural movies, the arts, and institution-building in 19th century Boston as a case study in the "culture" (high, middle and low) of a Victorian city. May be taken either consecutively with or independently of Geography 229. (See also Geography 229.)

One-half course, Semester 1, Mr. Koelsch, Mr. Story.

232. AMERICAN JEWISH HISTORY: FROM COLONIAL TIMES TO THE 1970'S.

(See description under Jewish History section.) Mr. Rosenblum.

234. RIGHT WING MOVEMENTS, 1790-1970.

Wallace, McCarthyism, American fascism, Social Justice, Red Scare, A.P.A., Know nothing, Antimasons, Anti-illuminati,

and other movements. Prerequisite: permission of instructor. Full course, first half, Semester 1. Mr. Formisano.

235. BUSING IN BOSTON, 1974-76: AN HISTORICAL INQUIRY. Not offered, 1976-77.

Double-credit seminar, interdisciplinary, interinstitutional. Explores history of: (1) legal framework; (2) ethnic groups; (3) Blacks; (4) politics since 1960; (5) desegregation in other cities; (6) residential segregation. Prerequisite: permission of instructor.

Double course.

Mr. Formisano.

236. PROSEMINAR: THE FAMILY IN HISTORICAL PERSPECTIVE.

Not offered, 1976-77.

Ms. Hareven.

EUROPEAN HISTORY - PERIOD COURSES

140. EUROPEAN HISTORY FROM THE "FALL" OF ROME TO THE PRESENT.

(See description under COURSES FOR FRESHMEN.) Mr. Lucas.

244. ENGLAND'S "OLD REGIME." Not offered, 1976-77.

The structure and possible causes of the peculiarities of English state and society, compared with continental Europe's from the Middle Ages to about 1800.

Full course.

Mr. Lucas.

245. INDIVIDUALISM, GROUP CONSCIOUSNESS AND ORGANIZATION, AND THE STATE IN "OLD EUROPE", 1550-1789. Not offered. 1976-77.

An examination of pre-French Revolutionary Europe as a corporative and customary political culture; a study of how that culture was altered by absolutism, militarism, mercantilism, early capitalism, modern science, and the requirements of the international system of European states; and appreciation of the social and ideological legacies of the ancient regime.

Full course.

Mr. Lucas.

246. THE FRENCH REVOLUTION OF 1789 AND THE COMPARATIVE STUDY OF REVOLUTIONS.

An analysis of old and new ideas of revolution, including ritual, resistance, reactionary restoration vs. innovation; of the "democratic" revolution; of the psychology, sociology, and social psychology of revolutionary behavior; and of the relevance of the French Revolution to twentieth century issues. Full course, Semester 2.

Mr. Lucas.

247. IN SEARCH OF HUMANITY: EIGHTEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

The "Enlightenment" and its critics: the scientific revolution, philosophical reformism, and early conservative romanticism. The emphasis is upon rival perceptions of man's psychological and social nature, history, and aesthetic and religious sensibilities as seen through great secondary treatments of the Enlightenment (which also introduces the student to various ways of doing intellectual history) and original sources: Hume, Beccaria, Rousseau, Condorcet, Kant, Burke, Savigny.

Full course, Semester 1.

Mr. Lucas.

248. IN SEARCH OF HUMANITY: NINETEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

The elaboration of the "Enlightenment" by its heirs and critics. The emphasis is the same as in 247., but the focus shifts to an analysis of political and economic liberalism, Social Darwinism, racism, and "utopian" socialism in England and France followed by an analysis of nationalism, Marxism, positivism, old and new conservatisms, and the reassessment of the values and progress

of European civilization among principally Italian and German thinkers.

Full course, Semester 2.

Mr. Lucas.

251. IMPERIAL RUSSIA, 1825-1917. Not offered, 1976-77.

An outline of Russian development from the early nineteenth century to the collapse of the tsarist regime. The emphasis lies on political history with occasional exploration of literary and economic history as well.

Full course.

Mr. Von Laue.

252. NINETEENTH CENTURY EUROPE.

Lecture and discussion course centering around the problems and dilemmas of various European political societies as they responded to the tug of modernity during the century of European preeminence throughout the world.

Full course, Semester 1.

Mr. Borg.

253. TWENTIETH CENTURY EUROPE.

Lecture and discussion course concentrating on the characteristic problems of Europe in a half century of war, economic convulsion, and political instability.

Full course, Semester 2. Mr. Borg.

254. PROSEMINAR: WORLD WAR I AND EUROPE.

Full course, Semester 1.

Mr. Borg.

255. MODERN GERMANY. Not offered. 1976-77.

An examination of the convulsive course of German history over the past century.

Full course.

Mr. Borg.

256. REVOLUTIONARY RUSSIA, 1900-1953.

The course offers a survey of Soviet political history from the beginning of Bolshevism to the death of Stalin; it is the continuation of the course on Imperial Russia, 1825-1917. Full course, Semester 1. Mr. Von Laue.

EUROPEAN HISTORY - TOPICAL COURSES

246. THE FRENCH REVOLUTION AND THE COMPARATIVE STUDY OF REVOLUTIONS.

(See description under EUROPEAN HISTORY-PERIOD COURSES.)

Mr. Lucas.

247. IN SEARCH OF HUMANITY: EIGHTEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

(See description under EUROPEAN HISTORY-PERIOD COURSES.)

Mr. Lucas.

248. IN SEARCH OF HUMANITY: NINETEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

(See description under EUROPEAN HISTORY-PERIOD COURSES.)

Mr. Lucas.

258. PROSEMINAR: EUROPEAN INTELLECTUAL HISTORY. Not offered, 1976-77.

A research seminar on authors not read in History 247. or 248.: prerequisite: successful completion of History 247. or 248. or its equivalent elsewhere, permission of the instructor.

Full course.

Mr. Lucas.

259. PROSEMINAR: TOTALITARIANISM.

A study of the nature of totalitarianism and of the origins, ideology, and operation of the German Nazi and Russian Soviet regimes.

Full course, Semester 2.

Mr. Borg.

260. THE NAZIS AND THE JEWS: THE HOLOCAUST UNIVERSE.

(See description under JEWISH HISTORY.)
Mr. Rosenblum.

NON-WESTERN HISTORY COURSES A) FAR-EAST

114. CHINA TO 1800.

(See description under COURSES FOR FRESHMEN.)
Staff.

115. CHINA, 1800 TO THE PRESENT.

(See description under COURSES FOR FRESHMEN.) Staff.

274. MODERN JAPAN, 1600-PRESENT.

A lecture and discussion course surveying the growth behind Japan's closed door, its development experience, and role as instigator of revolution in China and S. E. Asia. Comparisons will be made with contemporary China.

Full course, Semester 1.

275. PROSEMINAR: ASIAN RADICALS.

A comparative study of radical leaders such as Mao, Ho Chiminh, Gandhi, Sukarno, and Japanese militarists. The course will focus on motivation, intellectual and ideological underpinnings, and techniques — especially of motivation; and an effort will be made throughout to apply western world social sciences to assess the efficacy of cross-cultural comparison. Some Asian history strongly suggested. Prerequisite: permission of instructor.
Full course, Semester 2.

278. SPECIAL TOPICS: AMERICAN—EAST ASIAN RELATIONS. Not offered, 1976-77.

A lecture and discussion course focusing on relations between the United States, China, and Japan, and with reference to S.E. Asia as a bone of contention among the three in the twentieth century. Beginning with the nineteenth century the course will deal thematically with such issues as xenophobia, imperialism, and competing world views. Background in either Asian or American history is suggested but not required. The course is open to freshmen with permission of the instructor. Full course.

279. LAW AND SOCIETY IN CHINA: PAST AND PRESENT.

Lecture and discussion course examining the way in which Chinese values are revealed in and upheld by the law, and the ways in which the law changes as Chinese society has been revolutionized. Materials to be used include legal novels, formal codes, and casebooks.

Full course, Semester 2. Staff.

B) AFRICA

180. THE HISTORY OF TRADITIONAL AFRICA.

(See description under COURSES FOR FRESHMEN.) Full course. Mr. Ford.

181. THE HISTORY OF MODERN AFRICA.

(See description under COURSES FOR FRESHMEN.) Full course. Mr. Ford.

280. BLACK AND WHITE IN GHANA.

The interaction of African and European cultures on the Gold Coast and in modern Ghana.

Full course, Semester 1.

Mr. Von Laue.

281. PROSEMINAR: GHANA, THE NKRUMAH YEARS.

Full course, Semester 2. Mr. Von Laue.

285. FORMAL AND NON-FORMAL EDUCATION AS AN AGENT OF SOCIAL CHANGE.

An investigation into the influence of education on class structure, occupation, and identity in Africa. Both European-oriented and non-formal curricula will be considered as a means of changing attitudes and aspirations among citizens in developing countries.

Full course, Semester 2. Mr. Ford.

C) RUSSIA

(See courses listed under EUROPEAN HISTORY.)

TOPICAL COURSES IN NON-WESTERN HISTORY

285. FORMAL AND NON-FORMAL EDUCATION AS AN AGENT OF SOCIAL CHANGE.

(See description under AFRICA.) Mr. Ford.

287. COMPARATIVE REVOLUTION: RUSSIA AND CHINA. Not offered. 1976-77.

Jointly taught seminar with limited enrollment: will explore the twentieth century revolutions in these two countries through a thematic approach. Prerequisite: Russian or Chinese history and permission of instructors.

Full course. Mr. Von Laue, Staff.

288. DEVELOPMENT PROBLEMS.

The several dimensions of development and the reasons why the gap between developed and underdeveloped countries is widening will be explored. Among the disciplines drawn upon will be: geography, government, economics, and education. Problems analyzed will include — urban growth, land reform, unemployment, and government planning. Tanzania, China, Brazil, and other countries will be used as cases. (See also Geography 125.)

Full course, Semester 1. Mr. Ford, Mr. Berry, Ms. Enloe.

289. PROSEMINAR: COMPARATIVE WESTERNIZATION. Not offered, 1976-77.

The seminar discussions will explore the diverse effects of western influence on Russia, China, and West Africa (Ghana), while at the same time evolving a pattern for meaningful comparison of modernization in these three polities.

Full course.

Mr. Von Laue.

JEWISH HISTORY

232. AMERICAN JEWISH HISTORY: FROM COLONIAL TIMES TO THE 1970'S. Not offered, 1976-77.

This course examines the broad sweep of the Jewish experience on the American scene, beginning in the colonial America of 1654, and continuing to portray the evolution of Jewish life and thought in the expanding American society of the nineteenth century, and in the light of the explosive developments of the twentieth century. Topics for analysis will include ethnic traditions, religious commitments, economic adjustments, cultural horizons, social tensions, and political orientations. Full course.

Mr. Rosenblum.

260. THE NAZIS AND THE JEWS: THE HOLOCAUST UNIVERSE. Not offered, 1976-77.

This course will investigate the origins, development, operational features, and fateful consequences of this most traumatic event in all human history. It will draw upon the abundance of historical, biographical, literary, and philosophical

sources that have become increasingly available in recent years.

Full course.

Mr. Rosenblum.

262. ANTI-SEMITISM IN ITS HISTORICAL PERSPECTIVE.

Not offered, 1976-77.

This course will consider the unique features of anti-Semitism that have set it qualitatively apart throughout the ages from other forms of virulent prejudices and group tensions. Its manifestations from pre-Biblical days through Greek, Roman, medieval, and modern times will be examined to determine the scope of its social, religious, economic, psychological, and political roots. The contemporary period will be investigated, with the dual purpose of updating its historical evolution, and also of considering the developments that are likely to eventuate in view of the unfolding world scene.

Full course. Mr. Rosenblum.

263. MODERN JEWISH SOCIAL AND INTELLECTUAL HISTORY.

This course will survey the major events and developments that have shaped the course of modern Jewish history, from the enlightenment to the present time. Included in the scope of the course will be the stirrings of emancipation, the rise of Reform Judaism, the development of social movements, the growth of American Jewry, the emergence of Zionism, the origins of Anti-Semitism, the patterns of immigration, World War I, the rise of Nazism, World War II and the Holocaust, the post-war era and the establishment of Israel, and contemporary developments in the world Jewish community.

Full course, Semester 1.

Mr. Rosenblum.

265. ZIONISM AND THE RISE OF ISRAEL.

This course will explore the intellectual and cultural roots of the Zionist movement in modern times, and the political and social settings that witnessed its growth in the nineteenth and twentieth centuries. It will trace the historical steps that led from the conception of the Zionist idea to the growth of the Palestinian Yishuv, and then from the British mandate to the proclamation of independent statehood. Included in the scope of the course are the rise of Jewish nationalism, the birth of political Zionism, the contributions of Herzl and the other Zionist founders, the development of Arab nationalism, the Balfour declaration, the impact of Nazism, the socialist models, the institutional structure of the Yishuv, achieving independence, the war of liberation, Arab refugees, building a nation, developing a foreign policy, major social features of modern Israel, and contemporary issues.

Full course, Semester 2.

Mr. Rosenblum.

266. JEWISH CULTURE AND CIVILIZATION FROM BIBLICAL TIMES TO THE EIGHTEENTH CENTURY.

A survey of Jewish ideas, literature, and institutions of the Biblical, Talmudic, and medieval periods.

Full course, Semester 1. Mr. Goldsmith.

267. JEWISH CULTURE AND CIVILIZATION FROM THE EIGHTEENTH CENTURY TO THE PRESENT.

The Hassidic and Mussar movements; Enlightenment and Emancipation; Modern Hebrew and Yiddish literature; Reform, Orthodoxy, Conservatism, Jewish Socialism and Zionism; American Jewry and Israel.

Full course, Semester 2.

Mr. Goldsmith.

GENERAL HISTORY COURSES

294. THE WORLD AND I.

The objective of the course is to establish, from a historian's perspective, a meaningful link between the individual Clark student and the global world in which he/she lives; themes are selected from current world history, issue-oriented, and leading up to questions of culture, counter-culture, personal life style

and human values appropriate to the age. Lectures, discussion of assigned reading, term paper.

Full course, Semester 2.

Mr. Von Laue,

295. THE FUTURE, WAYS OF KNOWING AND SURVIVAL.

Not offered, 1976-77.

A lecture and discussion course, instructors (an historian and a geographer) alternate as lecturers; they will comment on each other's presentations and ideas, leading into class discussion. Students will write a variety of short papers and exercises, and keep a journal of their changing reactions to the course and the subject. Instructors and students will review the possibilities and limitations of "future study," practice trend projections, systems simulation, scenario preparation, visioning, and hopefully prepare a more positive and rational attitude toward the future. An upper division course, no prerequisites. Full course.

Mr. Von Laue, Mr. Kates.

297. SPECIAL PROJECTS.

Undergraduates, normally juniors and seniors, may construct an independent research course with an instructor of their choosing. The consent of the instructor must be obtained in advance.

Variable credit, Semesters 1, 2.

Staff.

298. DIRECTED READINGS.

Undergraduates, normally juniors and seniors, may design a directed readings course to consist of a sequence of structured readings on a given topic to be approved and directly supervised by an instructor.

Variable credit. Semesters 1, 2.

Staff.

299. JUNIOR HONORS SEMINAR.

This course attempts to teach students how to write analytical and synthetic research papers and to write them well, as well as to introduce students to the problems of studying history by learning about the aspirations, advantages, and disadvantages of "historicism."

Full course, Semester 2.

Mr. Borg, Mr. Lucas.

GRADUATE COURSES

300. DEPARTMENTAL SEMINAR. Not offered, 1976-77.

A survey of some major schools of historical study and of their methods, in search of a suitable historical approach to the contemporary scene.

Full course.

Staff.

AMERICAN HISTORY.

301. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815.

This seminar takes a historiographical approach to the literature in American history from the beginning of the colonial period until the end of America's second War of Independence.

Full course, Semester 1.

Mr. Billias.

302. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY SINCE 1815.

Major topics and themes, emphasis on historiographical essays. Full course, Semester 2. Mr. Story.

310. STUDIES IN EIGHTEENTH CENTURY AMERICAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term. Mr. Billias.

312. RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN Not offered, 1976-77. REPUBLIC.

This seminar deals with the origins of American political parties, the debate regarding the early party system, and a study of the process of nation building.

Mr. Billias.

315. SEMINAR: AMERICAN POLITICAL HISTORY.

Not offered, 1976-77.

U.S. Political History: Methods and Topics. Concentration on topics selected by instructor and students with special attention to interdisciplinary methods and the most recent works in political history.

Mr. Formisano.

320. SEMINAR: U.S. SOCIAL HISTORY.

Not offered, 1976-77.

The impact of urbanization and industrialization on the family. Ms. Hareven.

321. STUDIES IN RECENT AMERICAN HISTORY.

Not offered, 1976-77.

Independent studies. Variable credit.

Ms. Hareven.

322. SEMINAR: AMERICAN URBAN HISTORY.

Not offered, 1976-77.

The focus falls on the American adjustment to the urban industrial experience. Research will utilize original sources in Worcester and other New England towns. Ms. Hareven.

325. STUDIES IN RECENT AMERICAN HISTORY.

Independent studies.

Variable credit.

Semester 2, Modular Term.

Mr. Campbell.

326. STUDIES IN AMERICAN CONSTITUTIONAL HISTORY.

Independent studies.

Variable credit, Semester 2, Modular Term. Mr. Campbell.

330. STUDIES IN AMERICAN THOUGHT AND CULTURE.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term. Mr. Koelsch.

335. STUDIES IN AMERICAN INTELLECTUAL HISTORY.

Independent studies. (See also Philosophy 335.) Variable credit. Mr. Beck.

EUROPEAN AND NON-WESTERN HISTORY

345. STUDIES IN EARLY MODERN EUROPEAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term.

Mr. Borg, Mr. Lucas.

350. STUDIES IN MODERN EUROPEAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term.

Mr. Borg, Mr. Von Laue.

355. STUDIES IN RUSSIAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term. Mr. Von Laue.

370. STUDIES IN CHINESE HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term.

Staff.

380. STUDIES IN AFRICAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term.

Mr. Ford, Mr. Von Laue.

399. GRADUATE READINGS COURSE.

Variable credit. Semesters 1, 2, Modular Term. Staff.

400. THESIS RESEARCH.

Variable credit. Semesters 1, 2, Modular Term. Staff.

Interdepartmental and Non-Departmental

COURSES

ID & ND 122. FEMALE SEXUALITY AS REFLECTED IN JEWISH SOURCES.

Topics include family and marriage; love and sex; virginity and the bride; the wife and mother; women in high station and government; societal aberrations including adultery, divorce, widowhood. Subjects will be considered in their ancient and medieval settings with a view toward the influence that they exerted on contemporary attitudes.

Full course, Semester 2. Ms. Lieberman.

ID & ND 200. MARXIST PERSPECTIVES AND THE UNIVERSITY: A WORKSHOP-SEMINAR.

A critical examination of Marxist perspectives on the place of the university in higher education in advanced capitalist societies and in the liberal arts curriculum of the contemporary American university. Particular attention will be given to diversity of conceptualization and application. Seminar discussions and research will provide the intellectual basis for an accompanying workshop in academic program development whose goals will be the formulation of one or more proposals for a program in Marxist studies. Instruction will be by a multi-disciplinary team of Clark faculty, supplemented by extra-mural expertise. Intended primarily for the student possessing some introductory experience with Marxist thought; others should consult the coordinator for appropriate preparatory work prior to the beginning of classes. Limited to 20 students. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Kasperson (Coordinator).

ID & ND 213. HOW CLARK UNIVERSITY IS RUN.

After introductory reading about the nature of universities, students will meet with a variety of University officers, including Trustees, members of the Committee on Personnel, deans and the president, the University archivist, director of admissions, and also two prominent Worcester businessmen, and discuss with them the complex problems of running a University. The course is to serve as an opportunity for studying an academic institution at close range. Discussion, written reports, and a term paper. This course is recommended for freshmen and sophomores. Limited to 25 students.

Full course, Semester 1. Mr. Von Laue (Coordinator).



VPA 89. INTER-DISCIPLINARY CREATIVE WORKSHOP.

An inter-media group comprised of faculty and former students and functioning throughout the academic year. Students who have had training in film, video, art, or music, and who are ready to enter into creative projects may work within the programs of their own interest. The group presents experimental workshops as well as a full production. Prerequisite: permission of the instructor.

Variable credit, Semesters 1, 2.

Staff.

International Development and Social Change

PARTICIPATING FACULTY

Leonard Berry, Ph.D., Program Co-Director and Professor of Geography, Dean of the Graduate School, Coordinator of Research

Richard B. Ford, Ph.D., Program Co-Director and Associate Professor of History

Saul B. Cohen, Ph.D., Professor of Geography, Director of the Graduate School of Geography, Adjunct Professor of Government and International Relations

Robert W. Kates, Ph.D., University Professor, Professor of Geography

Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of History

Cynthia Enloe, Ph.D., Associate Professor of Government and International Relations, Director of the Graduate Program Robert C. Hsu, Ph.D., Associate Professor of Economics

Ann T. Schulz, Ph.D., Associate Professor of Government and International Relations

Thomas G. Carroll, Ph.D., Assistant Professor of Education Stephen L. Feldman, Ph.D., Assistant Professor of Geography Richard A. Howard, Ph.D., Assistant Professor of Geography and Adjunct Assistant Professor of Biology

Douglas L. Johnson, Ph.D., Assistant Professor of Geography Sharon P. Krefetz, Ph.D., Assistant Professor of Government and International Relations

Onkar S. Marwah, Ph.D., Assistant Professor of Government and International Relations

Ann Seidman, Ph.D., Professor of International Development, (Affiliate)

Charles Hays, M.D., Assistant Professor of International Relations (Affiliate)

PROGRAM

The Program in International Development and Social Change is a BA/MA offering combining both research and training activities.

The teaching program is designed to introduce students to the complex issues involved in international development, to introduce them to a range of research activities, as well as to prepare them for careers and participation in international fields. It will attempt to orient majors to the changing world in which we live and to the increasing role which developing societies play in the interdependencies of the world's social, economic, and political systems. The program also hopes to attract a wide range of non-majors in one or more of the courses, seminars, or

action research activities. It is also possible to work out a double major with one of the cooperating departments.

A new program in development, launched at a time of disillusionment and widespread doubt about progress in international development, requires special explanation. It does not seek to train agricultural specialists, highway design engineers, or sanitation system contractors. Nor do we expect the majority of our graduates to work for the established international agencies such as USAID, CARE, or the United Nations. Rather, we assume that graduates will acquire basic skills of economic and social analysis as well as an orientation toward development and social change. These skills and attitudes will be well suited for any number of careers in either the private or public sector which deal with developing areas of the world. The program also provides solid preparation for those who seek further training in graduate or professional schools.

To attain these skills, students should work within a combined graduate-undergraduate setting which blends the breadth of the liberal arts with the specialization of professional training. Thus, the curriculum combines existing courses, new cross-disciplinary courses, an internship, a basic research project, and an applied research activity.

The research program offers faculty, graduate students, and undergraduates opportunities to work individually and cooperatively in topics of concern related to international development and social change. Current research projects include Problems of the World's Least Developed Nations, the Continuing Problems of Drought and Development in West Africa, the Social and Economic Impact of Desertification Worldwide, and Environmental and Long-range Developmental Problems in Eastern Africa. In all this, we are concerned with the relationship between technological intervention and social change in the developing world. Associated with these collaborative research efforts are seminars, symposia, field internships, and summer activities.

The Program in International Development and Social Change expects students to:

- master basic skills including competence in a foreign language, quantitative skills, and techniques of economic and social analysis;
- attain an understanding of the development process in its political, economic, historical, and environmental aspects;
- develop an investigation/research approach to an actual problem and attempt to apply the growing body of theoretical knowledge in an internship experience;
- wrestle with the problem of hammering out a philosophy of development;
- 5) pursue a career track, selected from one of three existing options — public administration, development planning, development education, or a modified or combined form of one of these tracks.

COURSES

1) Prerequisites: All students should make certain that prerequisites are completed. One prerequisite requires that students complete Principles of Economics (Economics 10. and 11.). If students have not done so already, they should take these courses as soon as possible. The second prerequisite is foreign language competence. Students should discuss with a faculty member the specific interests which they have for the program and on that basis, determine which language proficiency would be most helpful for them. Language proficiency can be demonstrated either through proven competence or course work equivalent. Students in consultation with their advisers may be able to develop programs that fit their particular needs.

2) Core Courses — the second category of courses offered in International Development will be core courses.

ID 125. DEVELOPMENT PROBLEMS.

An introduction to the study of development. The course will consider the historical evolution of the concepts of economic

growth and development; the nature of development; five alternative approaches to development ranging from conventional theories of capital intensive investment to more radical theories of labor intensive investments; and for a conclusion, an assessment of development policies of governmental and non-governmental organizations. Historical, geographic, and political considerations will receive special attention.

Full course, Semester 1. Mr. Ford, Mr. Berry.

ID 201. SENIOR SEMINAR.

Required of all majors, the course will have two purposes: to reflect on the previous course work as a summation activity; and to prepare individuals for the internships upon which they will soon embark.

Full course, Semester 1.

Mr. Ford, Staff.

ID 206. AUTOBIOGRAPHY WORKSHOP.

An anthropoligical inquiry into the process of personal growth and social change. Required of all majors, the course allows students to examine their preconceptions; the way people perceive problems and methods of solving them.

Half course, Semester 1.

Mr. Knos.

ID 210. ECONOMIC PLANNING.

This course will consider alternative approaches to planning in developing countries, drawing particularly on the experience of the African countries. It will focus on the use of planning to restructure the inherited pattern of resource allocation to attain more balanced, internally integrated, self-reliant economies; and consider how institutions may need to be reshaped to implement plans proposed.

Full course, Semester 1.

Ms. Seidman.

ID 298. READINGS IN INTERNATIONAL DEVELOPMENT.

Variable credit, Semesters 1, 2, Modular Term.

ID 299. RESEARCH IN INTERNATIONAL DEVELOPMENT.

Variable credit, Semesters 1, 2, Modular Term. Staff.

ID 302. RESEARCH THESIS.

Master's degree candidates will register for two courses, called Thesis Research, while working on their masters degree research thesis.

Variable credit, Semesters 1, 2, Modular Term. Staff.

ID 303. APPLIED PROJECT.

During the graduate year, degree candidates will also participate in an applied project to acquaint graduate students with the techniques of writing applied literature.

Variable credit, Semesters 1, 2, Modular Term.

ID 304. GRADUATE SEMINAR.

During the first semester of the graduate year, a seminar entitled "Political and Institutional Change" will consider the mechanics and techniques of change within bureaucratic or institutional settings.

Variable credit, Semester 1.

Staff.

ID 305. DIRECTED READINGS.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

Staff.

ID 306. PHILOSOPHY OF DEVELOPMENT.

During the final semester of the graduate year, each student will be required to write a brief but meaty position paper on an individual rationale for development. A tutorial course.

Full course, Semester 2.

Mr. Ford, Mr. Berry, Staff.

In addition to the several formal courses, the Development Program sponsors a number of seminars, symposia, action projects, and student exchanges. Participation in these several activities is encouraged for majors.

Career Tracks with Suggested Courses

Majors in International Development and Social Change will take six courses in a particular field of specialization. In most cases, students will follow the pattern set out in one of three established tracks: development planning; development education; or public administration. In other cases, a student may design a course sequence, subject to approval by an appropriate faculty member, which either combines one of the above three tracks or creates a new focus. In every case, the area of concentration should be looked upon as an opportunity for students to link their interest in development with a focus in a specialized field.

For Resource Planning, choose from: Environmental Affairs 201, EA 202, Geog. 150, Geog. 157, Geog. 257, Geog. 268, Geog. 307.

For Economic Planning, choose from: Econ. 115, Econ. 176.

For Political Planning, choose from: Geog. 130, Geog. 230, Geog. 261, Geog. 270, Gov. 275, Gov. 291.

For Development Education, choose from: Geog. 205.1, Geog. 205.2, Geog. 206, Ed. 217, History 285, Ed. 252, Ed. 278.

For Public Administration, choose from:

Economics/Management - Econ. 115, Econ. 123, Econ. 126, Econ. 176, Econ. 207, Management 100, Management 211. Environmental Affairs/Science, Technology and Society - EA 210, Sociology 246.

Government - Gov. 103, Gov. 225. Gov. 275. Gov. 291. Gov. 295, Gov. 226, Gov. 236, Gov. 228.1, Gov. 235, Gov. 215.1, Gov. 106,

Gov. 228.3.

Jewish Studies

AFFILIATE FACULTY IN JEWISH STUDIES

Saul B. Cohen, Ph.D., Professor of Geography Walter Schatzberg, Ph.D., Professor of German, Coordinator for Jewish Studies

Herbert Rosenblum, Ph.D., Associate Professor of Jewish Studies (Affiliate)

Arnold Dashevsky, Ph.D., Assistant Professor of Jewish Studies (Affiliate)

Emanuel Goldsmith, Ph.D., Assistant Professor of Jewish Studies (Affiliate)

Joseph Klein, D.D., Lecturer in Biblical Literature Sarah Roth Lieberman, Ph.D., Lecturer in Jewish Studies Miriam Raviv, B.A., Lecturer in Hebrew

The following courses relating to Jewish Studies are offered in the 1976-77 academic year in various departments or as an interdepartmental discipline. For course descriptions please check the course listings within the departments. History 266 and 267 are designated as core courses and will be offered in alternate years. For further information concerning the Jewish Studies Program and to discuss the possibility of integrating Jewish Studies courses within various departmental majors, contact Mr. Schatzberg.

HEBREW LANGUAGE COURSES

(See Department of Foreign Languages and Literatures.)

Hebrew 11. ELEMENTARY HEBREW.

Full course, Semester 1.

Full course, Semester 2. Ms. Raviv.

Hebrew 12. INTERMEDIATE HEBREW.

Full course, Semester 1.

Full course, Semester 2. Ms. Raviv.

Hebrew 130. ADVANCED HEBREW.

Full course, Semester 1.

Full course, Semester 2. Ms. Raviv.

HEBREW LITERATURE COURSES TAUGHT IN ENGLISH

(See Department of Foreign Languages and Literatures.)

Hebrew 118. EXEGESIS OF THE BIBLICAL BOOK OF GENESIS.

Full course, Semester 1.

Hebrew 185. TRENDS AND VALUES IN YIDDISH LITERATURE.

Full course, Semester 1. Mr. Goldsmith.

JEWISH CULTURE AND CIVILIZATION

History 266. JEWISH CULTURE AND CIVILIZATION FROM BIBLICAL TIMES TO THE EIGHTEENTH CENTURY.

Full course, Semester 1.

Mr. Goldsmith.

Mr. Klein.

History 267. JEWISH CULTURE AND CIVILIZATION FROM THE EIGHTEENTH CENTURY TO THE PRESENT.

Full course, Semester 2.

Mr. Goldsmith.

HISTORY

History 263. MODERN JEWISH SOCIAL AND INTELLECTUAL HISTORY.

Full course, Semester 1.

Mr. Rosenblum.

History 265. ZIONISM AND THE RISE OF ISRAEL.

Full course, Semester 2.

Mr. Rosenblum.

GEOGRAPHY

Geography 188. IDEOLOGY AND ENVIRONMENT: SHAPING THE LAND OF ISRAEL.

Full course, Semester 1.

Mr. Cohen.

SOCIOLOGY

Sociology 226. SOCIOLOGY OF AMERICAN JEWRY.

Full course, Semester 1.

Mr. Dashevsky.

INTERDEPARTMENTAL AND NONDEPARTMENTAL

ID & ND 122. FEMALE SEXUALITY AS REFLECTED IN JEWISH SOURCES.

Full course, Semester 2.

Ms. Lieberman.

Linguistics

COURSES

114. GENERAL PHONETICS AND PHONEMICS.

Phonetics is the scientific study of all the physical aspects of speech. Phonemics treats of the systematic nature of the use of the physical means to form the communication systems we call languages. This course is concerned with language in general, so as to provide the theoretical framework necessary for describing the pronunciation system of any language. It includes the fundamentals of articulatory and acoustic phonetics, and it proceeds to general structural phonemics and some of its modifications and the theoretical questions raised by them. Prerequisite: permission of the instructor.

This course, or its equivalent, is prerequiste to Linguistics 260 (Linguistics and Language Learning). The instructor is prepared to suggest alternative ways of meeting the prerequisite, however. Given in alternate years. Staff.

Half course, Semester 1.

115. MAN AND LANGUAGE.

An introduction to the analysis of the nature and function of human language and its role in the life of individuals and societies. The approach is interdisciplinary, with attention to the points of view of philology, contemporary linguistics, anthropology, psychology, and philosophy. The lectures focus on such questions as: What is language? What is the relation between language and thought? To what extent does our language determine how we perceive the world? Why and how do languages change? What other functions does language serve besides communication? Why do we not have a world language? How have linguists achieved an objective, scientific analysis of linguistic systems? What are the limitations of such a science?

The course is designed for the general student who wishes to know more about the nature of the uniquely and universally human institution of language, and for the student or teacher of English or foreign language who is interested in the light which linguistic science can throw upon the relations between his/her field and other areas of life and knowledge. Prerequisite: permission of the instructor.

Full course, Semester 1.

Staff.

260. LINGUISTICS AND LANGUAGE LEARNING.

An exploration of various fields of linguistic study from the point of view of their relevance to foreign language learning. Intended to meet the needs of two classes of students: (1) prospective foreign language teachers who already have advanced mastery of their foreign language and (2) other students with a more general interest in the nature of language, whose primary orientation may be toward related problems in, for example, psycholinguistics or sociolinguistics.

Approaching language as behavior and assystem, the course directs attention to the levels ranging from the culture system to the system of the language as a whole and finally to its subsystems: lexical, grammatical, and phonological.

Offered in alternate years. Prerequisite: Linguistics 114., which may be taken either prior to or concurrently with this course, and for which substitutes may be available if the instructor is consulted well in advance; permission of the instructor is required. (See also Education 260.) Full course, Modular Term. Staff.

285. SEMANTICS.

This course studies meaning. It deals with and classifies the changes in the meanings of words and phrases, and it analyzes simile and metaphor. It also deals with the parametric organization of the semantic system. Some attention is paid to

the relation between thought and language. Offered at the discretion of the Department of English. Prerequisite: permission of the instructor. Mr. Macris. Full course, Semester 1.

287. INTRODUCTION TO LINGUISTICS.

This course is devoted to the theory and methodology of descriptive linguistics. It deals with the nature and function of language, the relation between speech and writing, phonology, morphology, syntax, lexicology, the sociocultural setting of language, the contact of linguistic systems, and the problems of "correctness." Emphasis is placed upon the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor. Full course, Semester 1.

288. COMPARATIVE AND HISTORICAL LINGUISTICS. Not offered, 1976-77.

This course examines the theory and methodology of comparative and historical linguistics. It focuses on linguistic geography, linguistic borrowing, the causes of linguistic change, the comparative method and reconstruction, and problems in analyzing languages with and without a literary tradition. Emphasis is placed upon the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor. Mr. Macris. Full course, Semester 2.

Education 288. SOCIOLINGUISTICS.

Refer to course description under Education 288. Ms. Morocco.

Education 336. LANGUAGE AND COGNITIVE DEVELOPMENT.

Refer to course description under Education 336. Ms. Morocco.

Education 338. BILINGUAL EDUCATION.

Refer to course description under Education 338. Staff.

English 280. HISTORY OF THE ENGLISH LANGUAGE.

Refer to course description under English 280. Mr. Macris.

English 282. SEMINAR: OLD ENGLISH. Not offered, 1976-77.

Refer to course description under English 282. Mr. Macris.

English 284. SEMINAR: MODERN AMERICAN ENGLISH.

Refer to course description under English 284. Mr. Macris.

English 286. SEMINAR: LINGUISTIC APPROACHES TO LITERATURE. Not offered, 1976-77.

Refer to course description under English 286. Mr. Macris.

English 295. TEACHING ENGLISH AS A SECOND LANGUAGE.

Refer to course description under English 295. Mr. Macris.

Philosophy 185. PHILOSOPHY OF LANGUAGE.

Refer to course description under Philosophy 185. Staff.

Management

DEPARTMENT FACULTY

W. Warner Burke, Ph.D., Professor of Management, Department

Harold T. Moody, Ph.D., Associate Professor of Economics and Management

Mark S. Plovnick, Ph.D., Assistant Professor of Management Richard L. Hopkins, M.A., Dean of COPACE, Senior Lecturer in Management

Daniel R. Kilty, Ph.D., Lecturer in Management Rudolph Winston, D.B.A., Lecturer in Management

The department offers undergraduate courses in management which may serve as electives or as part of an expanded major in another area, and a graduate program leading to the Master of Business Administration degree. The undergraduate option and the graduate degree program both are small and flexible, designed to allow the participation of students in a wide variety of educational experiences.

UNDERGRADUATE PROGRAM

Undergraduate courses emphasize the basic concepts and techniques of management, and may serve to prepare a student for entrance into M.B.A. programs upon graduation, as well as to supplement the excellent liberal arts education at Clark. These courses do not constitute a major within the University, but can serve either as electives, as a part of other major programs, or as a preprofessional program leading toward a management degree (see Preprofessional Programs section of this bulletin). Interested students should consult with the faculty advisers and with a member of the Department of Management.

THE GRADUATE PROGRAM

The M.B.A. program has unique features which should be evaluated by prospective students in the light of their interests and preferences. First, only the most important topics in the study of management are included: marketing, finance, information and control systems, behavioral science, and organizational change. These topics are applied to a wide variety of organizations. Second, to complete the graduate program, students must create a part of their program in conjunction with the faculty, administration, and other students. The department regularly schedules courses and seminars only in the above five fields. Thus, workshops, special courses, and other forms of educational projects must be continually created by the students. Experts with both academic and practicing backgrounds are brought into the program as necessary to meet these changing teaching demands. Third, the department is not solely committed to the study of business organizations. The faculty believes the study of management applies to all organizations, non-profit as well as profit. Consequently, the theoretical core of each field of study is emphasized, and descriptive institutional material is used to particularize the core. The mix of students in the program including current and future managers of educational, health, religious, government, and business organizations, forces the faculty to focus on the universal principles of managing. Fourth, graduate courses and seminars are scheduled in the late afternoons and evenings. These hours do not mean it is an evening program for part-time students, with a separate program in the daytime for full-time students. It is one program, with both part- and full-time students attending the same courses, seminars, and special projects. This aspect of the program contributes a unique atmosphere in which students learn from each other's wealth of different practical and academic experience.

A graduate program of 10 full courses (10 credits) is

required, which can be completed in one academic year. As prerequisites for these courses, a basic knowledge in 9 subject areas must be demonstrated. These prerequisites are not waived on the basis of previous academic or other experiences, because of the great variability in coursework and memory span of students. Although inconvenient for some, the required demonstration of knowledge results in a better graduate education for all. Individual study and the taking of waiver examinations is urged, the department offers the subjects as half-semester courses for those who would prefer them.

ADMISSION TO THE PROGRAM

All undergraduate majors are given equal weight in the admission decision. Persons interested in the program should request a Bulletin from the department. Those wishing to apply should complete the accompanying application form and return it to the department with the application fee. When all supporting documents have been received, the application is considered by the admissions committee, which meets monthly through the academic year. Admission is for September or February.

COURSES

Management courses offered each semester vary according to student interest. Management 100. is a prerequisite for all other management courses.

100. INTRODUCTION TO MANAGEMENT AND ADMINISTRATION.

A broad survey of the nature of organizations, in general, and management, in particular. Course emphasizes a consideration of the manager as a person and distinguishes between the management of things and the management of people. Course also covers basic principles of management and administration (planning, control, organization, and human relations). Full course. Staff.

202. INTRODUCTION TO COMPUTER MODELING OF ORGANIZATIONS.

The purpose of this course is to make students aware of the possibility and usefulness of representing some aspects of human behavior in mathematical terms; to formulate specific kinds of activities, and to manipulate and solve them using the computer. Necessary FORTRAN is included. Half course.

203. INTRODUCTION TO STATISTICS.

An introduction to decision-making when the future is unknown, using Beyes' criteria. Some statistical inference is also included. Half course.

205. INTRODUCTION TO ACCOUNTING.

Elements of generally accepted accounting procedures are presented for several major types of institutions, such as business, government, educational, and health. The accounts are examined as a tool for managerial decision-making. Half course. Staff.

206. INTRODUCTION TO INFORMATION SYSTEMS.

Provides an introduction to the systems approach and some applications of computers in different types of organizations. Half course. Staff.

209. INTRODUCTION TO MARKETING.

An introduction to the consumer and consumer behavior, promotional techniques, pricing, and the mixture of services provided by the organization. Half course. Staff.

210. INTRODUCTION TO CAPITAL INVESTMENT AND FINANCE.

The capital investment decisions of all organizations require long-range planning decisions. Simple techniques are reviewed, such as present value and cost-benefit analysis.

Half course. Staff.

211. INTRODUCTION TO BEHAVIORAL SCIENCE AND ORGANIZATIONAL BEHAVIOR.

Considers the nature of human behavior in an organizational context — the relationship of the organization as a system with the human as a system. Course covers human personality, group dynamics, intergroup relations, and principles of organizational structure.

Full course.

Staff.

310. BEHAVIORAL SCIENCE.

The study of the nature of groups and behavior of people within groups. The focus is on the individual in various organizational settings, the interaction of the individual within a group, the processes of group concept formulation, the interrelations among cultural assumptions and behavior in organizations, the effect of technology on behavior, and other topics in the field. Full course.

311. SEMINAR IN BEHAVIORAL SCIENCE.

Variable credit.

Staff.

320. ORGANIZATION DEVELOPMENT.

The study of organizational change with emphasis on theories of organization change, organization diagnosis, data analysis, and planned social intervention. Course considers the applicability of the behavioral sciences for organizational change and improvement. Consideration will be given to what constitutes organizational effectiveness.

Full course.

Staff.

321. SEMINAR IN ORGANIZATION DEVELOPMENT.

Variable credit.

Staff.

330. MARKETING THEORY AND RESEARCH.

The study of the relationships between an organization and the users of its product. Topics include the identification and estimation of the number and type of potential users, the determinants of user behavior, organizational decisions concerning output mix, and strategies when faced with incomplete information, pricing policies (including zero price for free services provided by some non-profit organizations), output quality, and advertising strategies.

Full course.

Staff.

331. SEMINAR IN MARKETING THEORY AND RESEARCH.

Variable credit.

Staff

340. CAPITAL BUDGETING AND FINANCE.

The study of the special long-range problems involved in the choice of capital investment and its financing. Most investment projects are interrelated and decisions must be made with only partial information; but traditional investment decision rules do not allow for these realities. These problems are studied, as well as the development and changes in managerial talent, and the time sequence of investments. Also of interest in this field is an understanding of the budgeting process in the behavior of individuals within organizations, whether business or non-profit, and their effects on managerial investment decisions.

Full course.

Staff.

341. SEMINAR IN CAPITAL BUDGETING AND FINANCE.

Variable credit.

Staff.

350. INFORMATION AND CONTROL SYSTEMS.

The study of the interaction between the creation of rules governing the gathering and processing of information about the organization and its environment, and their subsequent effect on managerial decisions. This includes the study of computerized information systems.

Full course.

Staff.

351. SEMINAR IN INFORMATION SYSTEMS.

Variable credit.

Staff.

380. to 390. Series. APPLIED MANAGEMENT SEMINARS AND COURSES.

The educational program for these seminars and courses is generally unstructured, responding to current interests. Much student work is self-created, with a small number of students working on related topics; in other instances, courses are arranged by the department where a wide student interest exists. Advanced seminars may be taken concurrently. Variable credit:

Mathematics

DEPARTMENT FACULTY

Robert W. Kilmoyer, Jr., Ph.D., Associate Professor of Mathematics, Department Chairman

John F. Kennison, Ph.D., Professor of Mathematics Stanley J. Poreda, Associate Professor of Mathematics* Bhama Srinivasan, Ph.D., Associate Professor of Mathematics* John S. Stubbe, Ph.D., Associate Professor of Mathematics Edward Cline, Ph.D., Assistant Professor of Mathematics David E. Tepper, Ph.D., Assistant Professor of Mathematics Mayer Humi, Ph.D., Associate Professor of Applied

Mathematics (Affiliate)

James Perry, Ph.D., Assistant Professor of Computer Science (Affiliate)

Norman Sondak, D.Eng., Professor of Mathematics (Affiliate) *on Sabbatical Leave, 1976-77.

UNDERGRADUATE PROGRAM

The department offers several courses of a general nature which may fulfill the needs of students at all levels who are interested in mathematics either as a discipline in itself or as a foundation for further study in other disciplines.

A variety of elementary mathematical needs can be met by means of the Math Clinic and Tutorial (10.). Students work at their own pace and choose a program suited to their needs. The clinic may be taken as a single- or double-strength course in either the first or second semester. Math 11. may be used as a preparation for calculus and may be taken independently of Math 10.

The calculus courses (12. and 16.) are normally open to freshmen. However, students with a weak background are advised to take Math 10. or Math 11. first. Diagnostic tests are available for students who are uncertain about which courses to take. Math 12. is the standard first year calculus course while Math 16. is the more theoreticially-oriented Honors Calculus. It is possible to omit Math 12. or 16. and begin with 13. (Intermediate Calculus) if sufficient achievement is shown on the advanced placement examination given in high school. If this is done, a student is automatically credited with Math 12. Students may start Math 12. in either the fall or the spring. A calculus course is strongly advised for students in the sciences and all students seriously interested in mathematics.

Students who need a basic course in computer programming might take Math 118., which could be followed by

Math 119. or 120. for applications. Linear algebra has many applications in the social sciences and Math 113. is an introduction to this subject. Math 160. is designed to help students acquire an understanding of concepts through problem-solving. Students who wish to experience some of the beauty of mathematical reasoning at an elementary level can take Math 124., 125., 115., or 140.

The Major in Mathematics

The prospective major is urged to visit the department and to discuss fully the different approaches to the major, which the department has made available. There are programs in pure mathematics, actuarial science, mathematics/computer science, mathematics/education, and mathematics/management. The objectives and requirements for these programs are outlined below.

Options Available within the Department:
PURE MATHEMATICS
APPLIED MATHEMATICS
ACTUARIAL SCIENCE
MATHEMATICS/MANAGEMENT
MATHEMATICS/EDUCATION
MATHEMATICS/COMPUTER SCIENCE

Although the following descriptions of each option are brief, we hope they indicate the nature of the program involved. We encourage students to call on the department for additional information.

PURE MATHEMATICS: The pure mathematics major at Clark is designed for two groups of students. The first includes the liberal arts student interested in the broad spectrum of mathematical thought and not wishing to limit himself/herself to the more well-defined vocational objectives of the other majors. Such a student will find sufficient flexibility in the program to meet his/her needs. The second group consists of those students planning graduate work in mathematics.

The mathematics requirements for this major are 10 semester courses including mathematics 12. (or the equivalent), 13., 113., and two semesters of a 200-level mathematics course (usually 214, or 215.). It is further expected that each major will have a culminating mathematical experience serving to give direction to his/her studies. This requirement will normally be satisfied by an advanced course; either a reading course or an advanced undergraduate course (making a total of three semesters of 200 level courses) or a graduate course Alternatively, the requirement may be met by an honors project, work study, interdepartmental readings, or other such experiences upon departmental approval, which should be obtained before the senior year. For the student planning to enter graduate school, the department strongly recommends that both the 214, and 215, sequences and at least one graduate course be taken.

The pure mathematics major has a science minor requirement. The objective is that the student be involved in a science to a sufficient depth to ensure that some of the uses of mathematics are illustrated. Each student will take four semester courses in one of the science departments, at least one of which uses mathematics heavily. Introductory courses which are designed for non-majors will not be counted towards the minor. Ordinarily, minors from chemistry, physics, and Science, Technology and Society are acceptable without approval. Certain minors from economics, geography, music, philosophy (related to the study of mathematical truth), psychology, and sociology are acceptable with departmental approval.

APPLIED MATHEMATICS: The applied mathematics major is designed for students interested in the application of mathematics to science or social sciences. The major emphasizes analysis for the physical sciences and probability and statistics for the life and social sciences. In addition to those students interested in the applied mathematics major (either alone or as a component of a dual major), it is hoped that the list of courses below will be useful to science students designing a minor in mathematics.

The major will require 10 semester hours of mathematics including mathematics 12., 13., 113., 118. (or the equivalent), 145., and either 216. or 217. The remaining required courses should be from among the following: 100., 119., 120., 153., any 200-level course, and certain additional Consortium courses upon departmental approval. It is strongly recommended that students interested in physical sciences take 216. while those interested in life and social sciences take 217. The student interested in graduate school should consider the other 200-level courses, especially 214.

The minor requirement consists of a substantial sequence of courses in a mathematically oriented science. The requirement is five semester courses which must not include introductory courses for non-majors. Minors from chemistry, physics, and Science, Technology and Society are acceptable without approval. Certain minors from biology, economics, geography, psychology, and sociology are acceptable with departmental approval. The criterion will be that a large proportion of the courses involve the application of mathematical techniques.

ACTUARIAL SCIENCE: Actuarial science could be described as the science of finance and insurance. A program of study in this field requires a firm grounding in mathematics, but involves problems which cut across the interface of statistics, economics, demography, law, and business management as well.

The requirements for this major consist of courses in mathematics, management, and computer science which are relevant to actuarial science. Specifically: Mathematics 12., 13., 118., 119., 153., 217., English 18. or an approved substitute, plus four units to be chosen from the following: Mathematics 100., 120., 247., Computer Science 102., 103., Management 205., 206., 210., Economics 10., or certain other courses with department approval.

Additional courses in computer science, economics, and management are recommended as a supplement to this major. Mathematics 160., Problems Seminar, is also available for those students who wish to prepare for specific actuarial examinations. Please consult with the department for further details regarding actuarial science.

MATHEMATICS/MANAGEMENT: The objective of this program is to make available to the mathematically inclined student the opportunity to prepare for (1) a career in business management, (2) graduate study in operations research, or (3) graduate work in a Master of Business Administration program.

Course requirements: Mathematics 12., 13., 217. At least two units from the following: Mathematics 100., 119., 120., 153., 247. Computer Science: Mathematics 118., or C.S. 101., and at least one additional unit from the following: C.S. 102., 103., 140. Management Science: At least one unit from the following: Management 205., 206., 209., 210., 211. Economics: At least two units, not to include courses which are principally mathematical; English 18.

It is also recommended that as a supplement to this major, students take Mathematics 153. and 247. In computer science, C.S. 103. is also strongly recommended. A student anticipating further study in an M.B.A. program should attempt to take all the management courses listed above and possibly one or more graduate courses in management. Finally, students are encouraged to acquire a reading knowledge of at least one foreign language.

MATHEMATICS/EDUCATION: The Mathematics/Education Program is designed for the student preparing to teach in the secondary school. This program consists of (1) major in mathematics, containing courses relevant to students' future needs in teaching, (2) a minor in education, and (3) additional courses which will help to integrate students' involvement in mathematical education with other areas of knowledge.

The specific course requirements for this major are as ollows:

1) The major in mathematics consists of nine units. Mathematics 12. (or the equivalent), 113., 217., 125., 150. are required and the remaining courses may be chosen from Mathematics 115., 124., 140., and any 200-level course. All majors are required to take at least one unit of a 200 level mathematics course.

2) The minor in education consists of Psychology 130., Education 290., 217., and 272.

3) Additional course requirements: (a) an introductory laboratory course in the life or physical sciences, (b) four semester courses in any of the following areas: economics, English, foreign language, geography, geology, government, history, linguistics, management, philosophy, psychology, sociology, Science, Technology and Society, Visual and Performing Arts.

The minor for this program is designed to meet the present certification requirements in Massachusetts.

MATHEMATICS/COMPUTER SCIENCE: This program enables the student to major in mathematics with emphasis on computer science and its applications, for example, in operations research. It provides a firm foundation for further work or graduate study in computer science. This major should also be seriously considered as a possible dual major with any field which draws upon computer science as a method of analysis.

Course requirements: Mathematics 12., 13., 217., 118. or Computer Science 101., Mathematics 119., 120., Computer Science 102., 103., 140., Mathematics 100. or 247. In addition, an advanced course in computer science (at Clark or W.P.I.) or an advanced project must be undertaken. Consult department for approval.

GRADUATE PROGRAM

The department offers courses leading to the degrees of Master of Arts and Doctor of Philosophy.

The requirements for the M.A.* are: (1) 10 full courses at least eight of which must be on the 300 level. These courses usually include one or two full courses of Mathematics 330. — the writing of the master's thesis. They may include seminars and reading courses; (2) the basic courses, Mathematics 316., 318. and 325. must be included. Each of these requirements may be waived for a student presenting evidence satisfying the department of his or her knowledge of the material in question; (3) a master's thesis and (4) an oral examination.

A student working toward the Ph.D. degree and electing to omit the M.A. thesis and M.A. oral examination will be recommended for the M.A. degree upon successful completion of the Ph.D. preliminary examination.

The requirements for the Ph.D.* follow the general requirements of the graduate school. The Ph.D. preliminary examination is usually given orally, but may be written under certain circumstances. Students should consult with their advisers by November of their second year. Students entering with a master's degree should discuss the examination immediately. Failure to take this examination at the appropriate time may result in the department not recommending a student for continued support. Scholarships, graduate instructorships, new courses are subject to final approval by the Graduate Board.

The language requirement will be considered to have been fulfilled if the candidate can demonstrate sufficient linguistic ability to carry on effective research in his or her field. The department's decision will depend heavily upon the recommendation of the candidate's adviser.

*All candidates for the M.A. and Ph.D. degrees in mathematics will be required to serve as teaching assistants or as assistants in the computing center as part of the work for their degrees.

COURSES

10. MATH CLINIC AND TUTORIAL.

Individual conferences, diagnostic tests, programmed exercises, and projects are used to develop mathematical skills, concepts,

and confidence. This course does not involve classes, but relies on a one-to-one approach. Mathematics 10. may be taken more than one semester as long as the total number of full course credits for 10. and 11. does not exceed two.

Semesters 1, 2. Mr. Kennison, Mr. Stubbe.

11. INTRODUCTION TO MATHEMATICS.

This course is designed to introduce topics in finite mathematics and can also serve as an exposure or review of those topics which are necessary for calculus. Typical areas to be covered include algebra, theory of equations, geometry, trigonometry, and probablility.

Full course, Semesters 1, 2, Modular Term.

Staff.

12. CALCULUS.

Introduction to differential and integral calculus of one variable; sequences and series, essential for further study in mathematics as well as for the study of applications in the natural sciences. Not open to students who have taken Mathematics 15. or 16. One year long. May be started Semester 1 or Semester 2. Full course, Semesters 1, 2, Modular Term. Mr. Cline, Staff.

13. INTERMEDIATE CALCULUS.

This course assumes the knowledge of one variable calculus and deals with functions of several variables. Topics covered include partial derivatives, line and surface integration, and sequences and series. Applications of these topics to complex analyis, vector analysis, and Fourier analysis are considered. Prerequisite: Mathematics 12., 16., or equivalent. Full course, Semesters 1, 2.

15. PROBABILITY AND CALCULUS FOR THE SOCIAL AND LIFE SCIENCES. Not offered, 1976-77.

A course designed to acquaint the student with the foundations of calculus and probability. Emphasis will be on applications which will be drawn from the fields of biology, economics, etc. The differential and integral calculus will be discussed and applications will include descriptive statistics.

Full course.

Staff.

16. HONORS CALCULUS.

This course is designed for math majors and others who are inclined towards a theory-oriented approach to calculus. Like Mathematics 12., is is also an introduction to differential and integral calculus of one variable, but there is more emphasis on understanding the concepts involved.

Full course, Semesters 1, 2. Staff.

88. DIRECTED READINGS IN MATHEMATICS.

Variable credit. Staff.

89. SPECIAL PROJECTS IN MATHEMATICS.

Variable credit. Staff.

100. MATHEMATICAL MODELS. Not offered, 1976-77.

This course introduces the student to the concept of a mathematical model and its application to the solution of real problems. Examples will include application in the areas of finance, transportation, production scheduling, economics, and population theory. The course will include analysis of models constructed by students.

Full course.

Staff.

113.1. MATRIX ALGEBRA.

The topics included in the one-semester sequence 113.1, 113.2 are basic to most applications of mathematics. The first section covers solutions of systems of linear equations by Gaussian elimination, matrices, determinates, inversion, and vector spaces.

Half course, First half, Semester 1. Staff.

113.2. LINEAR ALGEBRA.

Topics covered include bases, dimension, linear transformations, eigenvalues, and canonical forms. Prerequisite: 113.1 or permission of instructor. Half course, Second half, Semester 1. Staff.

115. INTRODUCTION TO ALGEBRAIC SYSTEMS.

This course is designed to provide a gradual introduction to abstract mathematical thought and to familiarize the student with the language in which more advanced mathematical and scientific theories are stated. Groups, rings, integral domains, and fields are discussed. This theoretical material is applied to derive elementary results from number theory and to discuss the problems of finding roots to polynomials and the trisection of the angle.

Full course, Semester 2.

Staff.

118. FORTRAN FOR SCIENCE STUDENTS.

This is a half-semester introductory FORTRAN programming course designed especially for students intending to pursue a major in the mathematically-oriented sciences or for those who possess a fair amount of mathematical sophistication. Although there are no prerequisites, students should have taken about three years of math in high school and should be able to handle elementary algebraic expressions and problems. This course will introduce the basic elements of FORTRAN language and an overview of computer programming and data processing in general. The course is essentially an accelerated version of Computer Science 101.

Half course, First half, Semester 1.

Mr. Stubbe.

119. ELEMENTARY NUMERICAL ANALYSIS.

This is a half-semester introductory course in numerical analysis and the application of computers to the solution of certain numerical problems. Topics covered will include interpolation, error analysis, and interactive methods. Prerequisite:

Mathematics 12. and either Mathematics 118. or Computer Science 101. or permission of instructor.

Half course, Second half, Semester 1.

Mr. Stubbe.

120. LINEAR PROGRAMMING.

This course will cover linear programming, its applications, and numerical algorithms. The simplex method, game theory, and Markov processes will be included. The linear algebra needed will be covered in the course.

Semester 1.

Mr. Tepper.

124. INTRODUCTION TO GEOMETRY. Not offered, 1976-77.

This course starts with revisiting Euclidean geometry, then leads, via Desargues' and other theorems, to projective geometry. Some transformations of the plane are considered. Finally, some finite geometries are studied. One of the aims of this course is to show the beauty of the deductive approach in mathematics. Prerequisite: equivalent of Mathematics 11. Full course.

125. THEORY OF NUMBERS. Not offered, 1976-77.

This is an introduction to number theory, and also aims to train students to understand mathematical reasoning and to learn to write proofs. The topics covered include the unique factorization of integers as products of primes, the Euclidean algorithm, congruencies, Fermat's Theorem, and Euler's Theorem (and some applications of the latter, e.g. magic squares). Prerequisite: equivalent of Mathematics 11. Full course.

135. PATTERN RECOGNITION.

An introduction to sequential methods in the classifications or labeling of a group of objects on the basis of certain subjective requirements. Decision-making will be done on the computer

either in the recognition of English characters or in the recognition of certain basic structures taken from the game of Go. Prerequisite: FORTRAN.

Full course, Semester 2.

Mr. Stubbe.

140. INTRODUCTION TO MATHEMATICAL LOGIC.

Not offered, 1976-77.

The propositional calculus and the first order predicate calculus, which consists of a language and a method of proving statements made in that language, will be constructed and discussed predominately in relation to mathematical questions such as consistency and completeness.

Full course.

145. ELEMENTARY DIFFERENTIAL EQUATIONS.

An introduction to elementary techniques and concepts for solving and applying differential equations. The equations discussed appear in biology, economics, the physical sciences, and other fields. They give mathematical models describing exponential growth, exponential growth with bound, vibrating springs, planetary motion, and other similar situations. Prerequisite: Mathematics 13. or permission of instructor. Full course, Semester 1.

150. SEMINAR IN MATHEMATICAL METHODS AND MATERIALS.

Methods and materials are taught: (1) to acquaint the student with various methods of approach for theories on teaching math on the secondary school level, and (2) to give the student a prestudent-teaching experience. While conducting mini-courses in math with South High School and the Alternative School, the seminar discusses articles that are concerned with teaching math, the relationship of the theories to the practice, the problems that are encountered within the mini-courses, and methods of teaching math. Various field trips and guest speakers will be included.

Full course, Semesters 1, 2.

Mr. Perry, Mr. Tepper.

153. ACTUARIAL SCIENCE.

This course deals with the mathematics of finance and its applications. Compound interest, life contingencies and population theory will be among the topics covered. The course is designed to introduce the student to the material included in the third and fourth (F.S.A.) actuarial exams. Prerequisite: Mathematics 12. or permission of instructor.

Full course, Semester 2.

Mr. Tepper.

160. PROBLEMS SEMINAR.

This course emphasizes the creative use (as opposed to the mere acquisition) of mathematical tools. Students should develop their mathematical resourcefulness by pursuing one or more of the "problem areas" presented. The problems shall be fairly specific yet open-ended and of interest to students at varying levels and with differing mathematical tastes. The course should be good preparation for actuarial examinations, for Mathematics 200. and for students who eventually wish to construct and analyze mathematical models in, for example, the social sciences.

Full course, Semesters 1, 2.

Mr. Kennison.

200. ADVANCED PROJECTS.

This course is intended for students pursuing advanced projects that involve mathematics. These projects might arise from mathematics or from some other discipline. Signature required. Variable credit.

214. MODERN ANALYSIS.

Not offered, 1976-77.

Topological and metric methods are introduced and studied. These generalize and explain many ideas first encountered in calculus. These methods will be applied to study differentiation, integration and convergence, among other topics, in greater depth. Prerequisite: Mathematics 13. or 113.1 or permission of instructor.

Full course.

Staff.

215. MODERN ALGEBRA.

This course introduces the theory of groups, rings, fields, integral domains, canonical forms, and related topics. The treatment will be axiomatic with emphasis on the construction of the proofs of certain theorems. Prerequisite: 113. or permission of instructor.

Full course, Semesters 1, 2.

Mr. Kilmoyer.

216. INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE. Not offered, 1976-77.

This is an introductory course designed for the undergraduate science major or graduate student preparing for Mathematics 316. Cauchy's theorem, Power series, Laurent series, the residue theorem, harmonic functions, and physical applications such as problems in two dimensional flow are among the topics to be covered. The object is to convey understanding of the classical theorems of complex analysis as opposed to rigorous proofs of their most general statements.

Full course.

Staff.

217. PROBABILITY AND STATISTICS.

This course is designed to introduce students to the theory and applications of probability and statistics. Techniques used to solve problems will be stressed along with the associated mathematical theory. Among the topics covered are combinatorial methods, postulates of probability, stochastic processes, probability densities, mathematical expectation, sampling distributions, estimation, hypothesis testing, regression, and correlation. The syllabus for this course includes most of the material recommended for those preparing for the second (F.S.A.) actuarial examination.

Full course, Semesters 1, 2.

Staff.

221. CALCULUS OF VARIATIONS. Not offered, 1976-77.

This course presents the historical development and applications of the extremely useful mathematical technique most frequently referred to as the calculus of variations. The main tool used in this course is calculus. Some of the classical problems that were solved using this technique will be illustrated, as well as the modern-day applications such as optimal control theory. Prerequisite: Mathematics 13. Full course.

244. DIFFERENTIAL EQUATIONS. Not offered, 1976-77.

First order and linear differential equations are covered. Various methods of solution are stressed, i.e. series, integrating factors, variation of parameters, etc. An introduction to partial differential equations and boundary value problems is discussed with some applications to fluid and thermal dynamics.

Full course.

Staff.

245. APPLIED MATHEMATICS.

The development of orthogonal functions, Fourier Series, Legendre Polynomials and Bessel functions and their use in solving heat conduction and vibration problems, the Laplace Transfrom. Corequisite: Mathematics 13.

Full course, Semester 2.

Mr. Stubbe.

247. OPERATIONS RESEARCH.

Linear models, linear programming, the simplex method, sensitivity analysis, network analysis, and dynamic programming will be covered in this one-semester course. Prerequisites: Mathematics 12. and 113. Full course, Semester 2. Mr. Tepper.

290. TOPICS IN ANALYSIS.

Content will be changed from year to year.
Variable credit
Semesters 1, 2, Modular Term.
Staff.

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250. APPLIED GROUP THEORY. Not offered, 1976-77.

The course will give an introduction to the theory of group representation (both Lie and Finite) and apply these results to detailed study of examples from physics and related fields, e.g. solid state physics, to rotation group and angular momentum, symmetry and elementary particals and applications of Lie theory to system theory. Prerequisites: Math 113 and 244. (Some background in Quantum Mechanics will be helpful.)
Full course.

Staff.

292. TOPICS IN TOPOLOGY.

Point set topology, metrization theorems, extension theorems will be covered during the first half. During the second half, algebraic topology will be introduced. Topics in homotopy and homology theory will be covered.

Full course, Semester 1.

Mr. Tepper.

293. TOPICS IN GEOMETRY.

Content will be changed from year to year.
Variable credit.
Semesters 1, 2, Modular Term.
Staff.

298. HONORS I.

Staff.

299. HONORS II.

Staff.

300. SETS AND TOPOLOGY. Not offered, 1976-77.

The foundations of set theory and the relationship of various fundamental axioms, such as Zorn's lemma and the Axiom of Choice. Point-set topology as far as the Hahn-Mazurkiewicz Theorem.

Full course.

Staff.

316. FUNCTIONS OF A COMPLEX VARIABLE.

This course deals with the theory of functions of one complex variable that possesses a derivative. It is intended that the student in this course be brought to the point where he or she can comprehend the existing unsolved problems as well as the historical development and applications of this field. Among the most advanced topics are conformal mapping, entire functions, geometric function theory, approximation theory, and Banach spaces of analytic functions. Prerequisites: Mathematics 214. or permission of instructor.

Full course, Semesters 1, 2.

Staff.

318. FUNCTIONS OF A REAL VARIABLE.

Not offered, 1976-77.

The real number system, topology, measure theory, and related topics. Signature required.

Full course.

Staff.

321. ALGEBRAIC TOPOLOGY. Not offered, 1976-77.

Introduction to algebraic topology including fibrations and coverings, homotopy, and homology. The relation with category theory will be emphasized. Prerequisites: Mathematics 215. and 318. or permission of instructor.

Full course.

Staff.

325. ADVANCED MODERN ALGEBRA.

Group theory, including the Sylow theorems, free groups, finitely generated abelian groups. Categories and functors, Ring theory, including factorization in commutative rings, polynomial

rings, modules over a p.i.d., duality, tensor products. Fields and Galois Theory, including field extensions, finite fields, cyclotomic fields, separability, the fundamental theorem of Galois theory, and the general equation of degree n. Linear algebra, including canonical forms of a matrix, and bilinear forms. If time permits, the Wedderburn structure theorems for Artinian rings. Prerequisite: Mathematics 215.

Full course, Semesters 1, 2. Mr. Cline.

326. SELECTED TOPICS IN COMPLEX ANALYSIS.

Topics selected from the theory of univalent and multivalent functions, geometric function theory, zeros of polynomials, and extremal polynomials. Prerequisite: Mathematics 316. or permission of instructor.

Full course.

Staff.

327. FUNCTIONAL ANALYSIS.

Full course.

Staff.

330. MASTER'S THESIS.

Full course.

Staff.

335. SELECTED TOPICS IN ALGEBRA.

Prerequisites: Mathematics 325. or permission of instructor. Full course. Staff.

uli course.

341. DIFFERENTIAL EQUATIONS.

Ordinary differential equations, theory, and techniques of solutions. Partial differential equations. Fourier transform,

distributions, and their applications.
Full course.

Staff.

358b. CATEGORY THEORY.

Introduction to the basics of category theory.

Full course. Staff.

376. REPRESENTATION THEORY OF FINITE GROUPS.

Prerequisite: Mathematics 325. and permission of instructor.

Full course. Staff

381. SEMINAR IN COMPLEX VARIABLES.

Full course.

Staff

382a. SEMINAR IN ABSTRACT ANALYSIS.

Full course.

Staff.

383. SEMINAR IN ALGEBRA.

Full course.

Staff.

384. SEMINAR IN CATEGORY THEORY.

Full course.

Staff.

390. READINGS IN MATHEMATICS.

Reading of the mathematical literature related to the student's

research program. Full course.

Staff.

391. RESEARCH IN MATHEMATICS.

Direction of the Ph.D. dissertation.

Full course.

Staff.

392. SEMINAR IN DIFFERENTIAL GEOMETRY.

The derivative — a reformulation, the spaces L(E^p,F), the exterior algebra, topological and differentiable manifolds, the tangent bundle, integration on chains, the classical theorems of Green and Stokes from the differential viewpoint, derivations, the Lie derivative, Sard's Theorem, and transversality. This

course is open to undergraduates who have had Mathematics 13. and 113. (or permission of instructor).
Full course, Semesters 1, 2. Staff.

Music

(See Department of Visual and Performing Arts.)

Philosophy

DEPARTMENT FACULTY

Robert N. Beck, Ph.D., Professor of Philosophy, Chairman Albert A. Anderson, Ph.D., Associate Professor of Philosophy Gary E. Overvold, Ph.D., Associate Professor of Philosophy Walter E. Wright, Ph.D., Associate Professor of Philosophy* Patrick G. Derr, M.A., Assistant Professor of Philosophy Gilbert S. Markle, Ph.D., Associate Professor of Philosophy (Affiliate)**

*On leave of absence, Semester 2, 1976-77.

**On leave of absence, 1976-77.

UNDERGRADUATE PROGRAM

The department offers courses both to students who wish to broaden their intellectual perspective by tracing relations among the various fields of knowledge and to those who wish to major in philosophy.

The major consists of at least eight courses, including three from Level II,* and five from Level III.* A course from Level I* is normally a prerequisite to the major, but does not constitute part of it. Students will concentrate in one of three branches at Level III, with a minimum of three courses in one branch and one from each of the other branches. All majors are required to have one course in logic. To insure some experience in autonomous learning, each student is required to take at least one seminar. For those who are motivated to undertake substantial independent research, the department offers an honors program consisting of the preparation of a thesis, a comprehensive written examination, and an oral defense.

In addition to the core major, each student will be required to achieve competence in another discipline. This can be done by fulfilling the requirements for a double major or by completing six courses in related fields. In consultation with the adviser, the student selects four courses in one discipline (three must be above the introductory level) and two courses in other areas. It is recommended that preprofessional majors complete the third year level in at least one foreign language.

The following table of course distribution summarizes the requirements and options for philosophy majors.

*Level II courses have numbers 100-119; Level II courses, 120-129; Level III courses, 130-190; and research courses in Level III, 200-240.

LEVELI

Problems of Philosophy Personal Values Introduction to Logic Science and Human Values

LEVEL II

History of Ancient Philosophy History of Renaissance and Modern Philosophy Kant and the Nineteenth Century
History of Contemporary Philosophy

LEVEL III

A. Value Theory

Philosophy Related Fields
Problems of Ethics English

Problems of Ethics English
Aesthetics Foreign Languages and

Social Philosophy Literatures

Philosophy of Religion Visual and Performing Arts

Philosophy of Law Sociology
Philosophy of Education History
Theory of Value Economics
Seminars in Philosophy
Advanced Topics in Philosophy
Government

B. Metaphysics

PhilosophyRelated FieldsMetaphysicsHistoryEpistemologyPsychology

Philosophy of Mind Sociology
Existentialism Foreign Languages and

Kant and the Nineteenth Century Literatures

Kant and the Nineteerfff Century Kierkegaard and Nietzsche History of American Philosophy Seminars in Philosophy Advanced Topics in Philosophy

C. Theories of Knowledge (Science, Logic)

Philosophy
Related Fields
Epistemology
Symbolic Logic
Phenomenology
Philosophy of Science
Philosophy of Logic
Philosophy of Social Science
Philosophy of Social Science
Philosophy of Social Science
Philosophy of Social Science
Biology

Philosophy of Language Science, Technology and

Seminars in Philosophy Society

Advanced Topics in Philosophy

COURSES

100. PROBLEMS OF PHILOSOPHY.

Nature and method of philosophy. Application of philosophical method to contemporary personal and social problems. Detailed analysis of some typical problems in various fields of philosophy. Limited to freshmen.

Full course, Semester 1. Mr. Anderson, Mr. Derr.

101. INTRODUCTION TO LOGIC.

Logic as philosophy and practice. An introduction to the meaning of logical reasoning with a study of its principles and methods. An investigation of the philosophical presuppositions of logic.

Full course, Semester 2. Mr. Overvold.

105. PERSONAL VALUES.

Exploration of philosophical approaches to the fundamental human value problems such as truthfulness, sexual integrity, love, violence, war, and death. The connection between personal value choices and ethical theories will be studied. Limited to freshmen.

Full course, Semester 1. Mr. Wright, Mr. Beck.

110. PROBLEMS OF PHILOSOPHY.

See description under Philosophy 100. Not open to freshmen. Full course, Semester 2. Mr. Beck.

111. SCIENCE AND HUMAN VALUES.

Theoretical and practical issues concerning the interrelations between science and human values. Values in scientific method, technology and values, pure and applied sciences, science and ethical relativism. Views of man in natural and social sciences and their connections with values and methodology. Preference to freshmen.

Full course, Semester 2. Mr. Derr.

121. HISTORY OF ANCIENT PHILOSOPHY.

The origins of philosophical thought in the West with emphasis on the early Greeks, Plato, and Aristotle. Examination of classical theories of man, society, and nature providing background for later philosophical reflection.

Full course, Semester 1. Mr. Anderson.

123. HISTORY OF RENAISSANCE AND MODERN PHILOSOPHY.

Major thinkers and philosophical movements from the beginning of the modern period in Descartes through Hume. The two great trends in modern thought — Continental Rationalism and British Empiricism — will be examined in particular regard to their implications for, and effects upon, our contemporary view of the world. Prerequisite: one full course in philosophy. Full course, Sernester 2.

124. KANT AND THE NINETEENTH CENTURY.

Trends in philosophy during this period considered as a background for understanding recent philosophy. Philosophers to be studied may include Fichte, Hegel, Schopenhauer, Nietzsche, Marx, Engels, and Comte. Prerequisite: two full courses in philosophy (Philosophy 123. is recommended). Half course, First half, Semester 1. Mr. Wright.

125. HISTORY OF CONTEMPORARY PHILOSOPHY.

An investigation of the major types of philosophical thought distinctive to recent philosophy: Pragmatism, Logical Positivism, Ordinary Language Philosophy, Existentialism, and Phenomenology. Emphasis upon each as a coherent perspective upon experience with a focus on the style and methodology of each view. Prerequisite: one full course in philosophy (Philosophy 123. or 124. is recommended).

Full course, Semester 1.

Mr. Overvold.

INTERMEDIATE COURSES

141. PROBLEMS OF ETHICS.

Consideration of important ethical theories to acquaint students with the problems and scope of ethics and to aid them in the formulation of an ethical outlook. Not open to freshmen.

Full course, Semester 1.

Mr. Beck.

142. SOCIAL PHILOSOPHY.

Principles underlying social structure and functions. Examination of the goals, purposes, norms and ideals of social process, and the relation of that process to the individual good. Not open to freshmen.

Full course, Semester 2. Mr. Beck.

145. EXISTENTIALISM.

A study of the major philosophers in twentieth-century Existentialism with a focus on their redefinition of man in terms of his "lived world" and his nonrational capacities. Prerequisite: two full courses in philosophy.

Full course, Semester 1.

Staff.

146. KIERKEGAARD AND NIETZSCHE.

Investigation of the roots of contemporary existential thought in the nineteenth century through the analysis of major writings by Soren Kierkegaard and Friedrich Nietzsche. Emphasis on their doctrines of knowledge, existence, and man. Prerequisite: one full course in philosophy.

Full course, Modular Term.

Mr. Overvold, Mr. Wright.

104 PHILOSOPHY

149. AESTHETICS.

Representative theories of the nature of the arts (literature, drama, music, and visual arts), the creative process, aesthetic experience, and art criticism such as those of Aristotle. Nietzsche, Collingwood, Fischer, Dewey, Langer, Sartre, and Arnheim. Prerequisite: one full course in philosophy. Full course, Semester 2. Mr. Anderson.

150. PHILOSOPHY OF RELIGION.

The nature of religion as revealed by the examination of representative forms of religious experience. Emphasis is placed on the effect of contemporary knowledge on the understanding of the religious dimension. Prerequisite: one full course in philosophy.

Full course, Semester 2.

Mr. Wright.

151. PHILOSOPHY OF LITERATURE.

Philosophical approaches to poetry, drama, and the novel through consideration of issues such as truth in literature, the writer and society, the nature of imagination, literary style, and criteria for criticism. Prerequisite: permission of instructor. Full course, Modular Term. Mr. Anderson.

153. HISTORY OF AMERICAN PHILOSOPHY.

Not offered, 1976-77.

Survey of important philosophical ideas in America with emphasis on their relationship to the American experience. Prerequisite: one full course in philosophy. Full course. Mr. Beck.

155. PHILOSOPHY OF SCIENCE I.

An introduction to certain problems of epistemology and metaphysics, cast into the terms and context of twentiethcentury science. The questionable "ontological status" of theories is the principal point of focus. Prerequisite: one full course in philosophy.

Full course, Semester 1.

Mr. Derr.

156. PHILOSOPHY OF SOCIAL SCIENCE.

A dialectical examination of naturalistic and phenomenological approaches to social reality. The concepts to be examined include: behaviorism, consciousness, functionalism, cultural relativism and determinism, rationality, values, reductionism, and holism. Prerequisite: one full course in philosophy. Full course, Semester 2.

160. SYMBOLIC LOGIC.

A basic course in symbolic logic with stress on principles of deductive rigor. Some consideration of the philosophical implications of logic. Topics to be discussed include: sentential calculus, predicate calculus, Tarski's definition of truth, selected metatheorems, and Henkin's completeness proof for the first order predicate calculus. Prerequisite: permission of instructor. Full course, Semester 2.

ADVANCED COURSES

171. KANT.

Immanuel Kant viewed as a synthesis of the traditions of Continental Rationalism and British Empiricism. Prerequisite: two full courses in philosophy, including Philosophy 123. Full course. Staff.

172. PHILOSOPHY OF MIND.

A critical examination of the "nature" or concept of mind. Related issues to be considered are: mind-body relationship, the identity theory of mind/brain, the thesis of the dualism of mind and matter, and other themes that involve the philosophical examination of psychological phenomena. Prerequisite: two full

courses in philosophy, preferably including at least one intermediate or advanced philosophy course. Full course, Semester 2. Mr. Overvold.

175. METAPHYSICS.

Clarification of the nature of metaphysical thinking and views of representative philosophers on the nature of space, time, causality, matter, force, self-identity, mind, body, and freedom. Prerequisite: two full courses in philosophy. Full course, Semester 2.

177. CONCEPTS OF THE SELF.

An investigation of several perspectives on the nature of the human self. The course will deal with the writings of such thinkers and philosophers as Plato, Aristotle, Descartes, Hume, Heidegger, Strawson, Ornstein, and Castaneda. Emphasis on group discussion and interaction. Prerequisite: two full courses in philosophy.

Full course, Semester 1.

Mr. Wright.

180. EPISTEMOLOGY.

The study of epistemology is, broadly, the study of the nature of knowledge. Within this very general heading are a host of specific topics and from that group this course will focus on the interrelations among belief, knowledge, evidence, proof, truth and also will consider the problem of skepticism. Prerequisite: two full courses in philosophy.

Full course, Semester 2.

Mr. Overvold.

185. PHILOSOPHY OF LANGUAGE.

An examination of the concepts of reference, truth, meaning, translation, rationality, objectivity, linguistic relativism and determinism, intentionality, and linguistic universals, in light of traditional philosophical problems about the relations between language and reality. Prerequisite: two full courses in philosopy, or permission of instructor.

Full course, Semester 2.

Mr. Derr.

188. THEORY OF VALUE.

Definitions of "value"; psychological and social conditions of different values; function of value judgments; nature of standards and their role in criticism - in art, science, morals. Foundations of the normative disciplines, i.e., logic, ethics, aesthetics. Prerequisite: two full courses in philosophy including a course in one of the following areas: logic, ethics, or aesthetics.

Full course, Semester 2.

Mr. Anderson.

RESEARCH IN PHILOSOPHY

200. ADVANCED TOPICS IN PHILOSOPHY.

Group discussion, individual tutorials and independent research in areas of philosophy. The independent research involves a topic of each student's choice within the designated area. Prerequisite: where appropriate, completion of regular department course in the area; two full courses in philosophy; and instructor's permission. Offerings vary each semester. Topics include: Husserl, Philosophy of Law, Existentialism, German Philosophy, Social Philosophy, Philosophy of Language, Greek Philosophy, Aesthetics, Philosophy of Logic. Variable credit. Staff.

201. SURSEMINAR: RESEARCH AND WRITING IN PHILOSOPHY.

Prerequisite: permission of instructor. Half course. Mr. Beck.

202. SURSEMINAR: PHILOSOPHICAL JOURNALS.

Prerequisite: permission of instructor. Half course. Mr. Beck.

203. SURSEMINAR: TEACHING IN PHILOSOPHY.

Prerequisite: permission of instructor. Staff. Full course.

204. SURSEMINAR: READINGS IN PHILOSOPHY IN GERMAN.

Prerequisite: permission of instructor. Mr. Wright. Full course.

220-240. SEMINARS IN PHILOSOPHY.

Advanced studies of topics of central importance to philosophy, such as the philosophy of Whitehead, Spinoza, Plato, Hegel, the nature of the a priori, the problem of justice, the nature of truth, phenomenology, the philosophy of mind, the philosophy of law. Offerings vary each year; those for 1976-77 are listed below. Prerequisite: four full courses in philosophy or permission of instructor.

Staff.

225. PHENOMENOLOGY.

Full course.

Mr. Overvold.

227. PHILOSOPHY OF RELIGION.

Full course.

Mr. Wright.

290. PHILOSOPHY OF EDUCATION.

Full course.

Mr. Beck.

299. HONORS IN PHILOSOPHY.

Advanced individual study of philosophical problems. Honors includes the preparation of an acceptable thesis and a comprehensive examination. Prerequisite: permission of the department. Normally a one-year program involving two full courses. Variable credit.

Semesters 1, 2.

Staff.

335. STUDIES IN AMERICAN INTELLECTUAL HISTORY.

Independent studies. (See also History 335.) Variable credit.

Semesters 1, 2, Modular Term.

Mr. Beck.

Physics

DEPARTMENT FACULTY

Harvey Gould, Ph.D., Associate Professor of Physics, Department Chairman Roy S. Andersen, Ph.D., Professor of Physics

Christoph Hohenemser, Ph.D., Professor of Physics John A. Davies, Ph.D., Associate Professor of Physics Roger P. Kohin, Ph.D., Associate Professor of Physics* Albert M. Gottlieb, Ph.D., Assistant Professor of Physics and

Adjunct Assistant Professor of Chemistry Robert L. Goble, Ph.D., Visiting Assistant Professor of Physics and Science, Technology and Society

Edward L. O'Neill, Ph.D., Professor of Physics (Affiliate) Jerald A. Weiss, Ph.D., Professor of Physics (Affiliate) Thomas H. Keil, Ph.D., Associate Professor of Physics (Affiliate)

on leave 1976-77.

THE CURRICULUM

The academic program of the Department of Physics serves to provide instruction in physics for students having a wide

variety of needs or backgrounds in science and in technology. The department's offerings range from courses accessible to students who have no previous training in science and who seek an elementary introduction in the discipline, to courses at the research frontier addressing topics of current importance to the professional physicist. Included in the curriculum, in addition to the introductory level courses, are several more advanced courses not having extensive prerequisites. Also included are apprenticeship courses in which undergraduate and graduate students having appropriate backgrounds can participate actively with the faculty in research projects. Completing the departmental offerings are programs leading to the Bachelor of Arts degree, with a number of optional areas of specialization, and to the Master of Science and Doctor of Philosophy degrees. Formal classes (excluding readings and special topics) fall into six categories, as listed below: 1) Courses for Non-scientists.

These courses are designed to impart an appreciation and a degree of literacy in the physical sciences. They acquaint students with the nature of scientific inquiry and inform them of the impact of science in the contemporary world. These courses are essentially non-mathematical, requiring only limited use of geometry, trigonometry, and algebra at the high school level. Included are Physics 1. and 2. and Astronomy 1.

2) Introductory Courses for Science Students.

These courses are designed to provide the foundation for all students intending to do advanced work either in physics or in a discipline requiring a background in physics. First year courses, Introductory Physics and Classical Physics, together with a laboratory course, can be used to meet the physics requirement for biology and chemistry majors and students in the premedical program. Second year courses, Quantum Physics and Statistical and Thermal Physics or their tutorials, continue this introductory sequence and are prerequisite to the more advanced courses. 3) Advanced Undergraduate Courses

These courses extend the background developed in the introductory courses and prepare students for independent work, for graduate studies, or for a post-graduate career in physics or a related field. These courses include Electricity and Magnetism, Modern Physics, Classical Theory of Fields, Quantum Mechanics, and Statistical Mechanics. Courses at the 200 level are not normally open to students until they have completed the physics core curriculum described below. 4) Laboratory Courses.

These courses meet the needs of a variety of students from the introductory level to the beginning graduate level. The Introductory Laboratory, Physics 19., meets the laboratory requirement of the biology, chemistry, and premedical programs but any more advanced laboratory may be substituted. Physics 19, and 129, are required for all physics majors. Laboratory courses designed for science majors from a variety of fields include the Optics and Electronics Laboratories. More advanced laboratory work is available in Physics 188., 219., 231., and 233. 5) Basic Graduate Courses.

These courses form the background for research in all areas of physics and are required for Ph.D. candidates. They are Physics 301., 303., 305., 309., and 310.

6) Specialized Graduate Courses.

These courses extend the basic graduate courses to the research frontier and are numbered 311, or higher. Students specializing in particular areas may choose those courses relevant to their interests. The courses are normally given when student demand warrants.

THE UNDERGRADUATE MAJOR

Undergraduate physics majors may choose any one of five programs of study: (1) general physics, (2) experimental physics, (3) mathematical physics, (4) biophysics, and (5) technology assessment. Each program consists of a common core curriculum, normally to be completed by the end of the sophomore year, and an area curriculum which defines each

student's specialization. Both the core and area curricula include courses in related fields.

I) Core Curriculum

This curriculum consists of a two-year survey of classical quantum and statistical physics with the associated laboratories and two years of mathematics. Physics majors normally are expected to complete this curriculum in their sophomore year. The core curriculum consists of the following courses:

	nequirea	Units
1)	Classical Physics, Physics 12.	2
2)	Introductory Laboratory, Physics 19.	1/2
3)	Calculus, Mathematics 12.	2
4)	Quantum Physics, Physics 113, or 114.	1
5)	Statistical and Thermal Physics, Physics 123, or 124.	1
6)	Intermediate Calculus, Mathematics 13.	2
7)	Electronics and Instrumentation Laboratory, Physics 129	. 2

Particularly well-prepared freshmen may receive advanced placement by passing an examination given by the appropriate department, and may move directly into the second-year courses. Students will not receive credit for courses skipped but may count them towards their core requirements. Interested students should consult the departmental undergraduate adviser. II) Area Curricula

Majors must choose one of five area programs prior to the beginning of their senior year. The rationale and requirements of the five area programs are as follows:

1) General Physics: This program is designed for students who wish to study physics as a liberal art and who do not intend graduate study in physics. The program features a maximum freedom of choice and is excellent preparation for professional schools, teaching, business, and a variety of interdisciplinary graduate areas.

Required

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a.	Physics Core	10-1/2
b.	Physics 164. and 174.	2
C.	Mathematics above Mathematics 13.	2
d.	Chemistry	2
e.	Related areas: science teaching, computer science, history of science, philosophy of science, Science,	
	Technology and Society, or other areas approved by	
	the undergraduate adviser.	6

2) Experimental Physics: This program is designed for students who may wish to pursue graduate study in physics or a closely related area, and who have significant desire and talent to do serious experimental work. A principal feature of the program is the requirement of a two-semester experimental research project.

research project.	
Required	Units
a. Physics Core	10-1/2
b. Physics 164, and 174.	2
c. Physics 231.	2
d. Mathematics above Mathematics 13.	2
e. Chemistry	2
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f. Related areas: computer science, philosophy of science, logic, biology, Science, Technology and Society, or other areas approved by the undergraduate adviser.

Total 22-1/2

3) Mathematical Physics: This program is designed for students who may wish to pursue graduate study in physics or a related area, and who have significant desire and talent to work with advanced mathematical techniques. A principal feature of the program is the requirement of considerable course work in mathematics and logic.

	Required	nits
a.	Physics Core 10	-1/2
b.	Physics 164., 174., and 201. or 205.	4
C.	Mathematics: algebra, complex variables, differential	
	equations, and modern analysis or applied mathematics	. 4
d.	Philosophy of science, or logic.	2
e.	Related areas: chemistry, computer science, and Science	,

Technology and Society, or other areas approved	
by the undergraduate adviser.	2
Total	22-1/2

4) Biophysics: This program is designed for students who wish to approach life-science studies through a firm grounding in the physical sciences. The program is appropriate as a preparation for medical school, and for a variety of graduate programs in the life sciences. A principal feature of the major is a required capstone course in biophysics.

	Required		Units
a.	Physics Core		10-1/2
b.	Physics 164. or 174.		1
C.	Chemistry: inorganic, organic, and physical		5
d.	Biology		4
e.	Biochemistry		1
f.	Biophysics seminar		1
		Total	22-1/2

5) Technology Assessment: This program is designed to provide students with an adequate basis for conducting physical, economic, and value assessments of selected technological systems. The goals of the major are similar to the major in Science, Technology and Society, but feature more extensive work in physical science.

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	Required		Units
a.	Physics Core		10-1/2
b.	Mathematics beyond Mathematics 13.		1
C.	Physics 164. and 174.		2
d.	Science, Technology and Society		3
e.	Related social science: economics, government an	d	
	geography		4
f.	Related science: chemistry or biology		2
	Tot	al	22-1/2

Undergraduate Honors

Units

Total 22-1/2

A qualified undergraduate in any of the major options above is encouraged to participate in the physics honors program. During the junior and senior years, honors students conduct an experimental or theoretical research project under the guidance of a faculty member. This work is submitted to the department as an honors thesis. Recommendation for a degree with honors in physics is determined by the quality of each thesis and the performance of students in an oral defense of their thesis. An honors candidate must maintain an average of B- in physics, chemistry, and mathematics courses. Students may gain credit for honors work by registering for Physics 231. or 232.

GRADUATE PROGRAM

The Department of Physics offers the Master of Arts and Doctor of Philosophy degrees in physics, and jointly with the Department of Chemistry, a Ph.D. in chemical physics. Departmental research is concentrated in the experimental and theoretical study of condensed matter with emphasis on phase transitions.

At entrance, graduate students are given a placement examination which tests their knowledge of undergraduate physics. A student failing this examination may be required to take a remedial program before entering fully into the graduate program, and may be asked to fulfill the requirements of the M.A. before proceeding to the Ph.D.

To receive the Ph.D., students must, in addition to satisfying the University residence and course requirements, pass with a grade of B or better, the basic graduate courses Physics 301., 305., 309., and 310., and two units of Physics 303. To qualify for Ph.D. research, students must pass four oral examinations in the subject matter of the basic graduate courses and an additional comprehensive oral examination. Students must also pass at least one graduate course in a subject other than physics, demonstrate literacy in a foreign language and computer programming, and complete a dissertation based on an original piece of research. Students entering with advanced standing and transferable credit are encouraged to demonstrate their proficiency in core graduate courses through examination.

To receive the M.A. students must satisfy the University residence and course requirements, pass four units of the basic graduate courses, Physics 301., 305., 309., and 310., one unit of Physics 303., and pass two related oral examinations. They must also complete a thesis based on an original piece of research.

Graduate students in both the M.A. and Ph.D. programs are required to obtain supervised teaching experience either as a teaching assistant or a teaching fellow in the department or elsewhere if approved by the department.

Those interested in further information on research opportunities in the department should request the brochure "The Graduate Program and Research in Physics at Clark." Those desiring more detail on graduate requirements and their timing should request a copy of "The Physics Graduate Student Handbook." Both are available from the department chairman.

Applicants for admission should know what various forms of financial aid are available, and that the department considers provision of such aid an important responsibility. Application forms for admission and financial aid may be requested from the department chairman.

COURSES

Astronomy 1. EXPLORING THE UNIVERSE.

Refer to course description under Astronomy.
Full course, Semester 1. Mr. Andersen.

1. PHYSICS FOR ARTISTS, POETS, AND PHILOSOPHERS.

A semester introduction to the history, methodology, and achievements of physics and its social and cultural influences. The course will stress modern ideas of space and time, Einstein's theory of relativity, current theories of cosmology, and quantum theory. Mathematical tools necessary are high school algebra and geometry. Three class meetings and one laboratory per week. Open to freshmen.

Full course, Semester 2.

Mr. Andersen.

2. THE PHYSICS OF EVERYDAY EXPERIENCE.

A semester introduction to the basic physical concepts necessary for a fundamental understanding of our everyday observations of the physical world, and the nature of discovering, reasoning, and concept-formation in the physical sciences. Topics will include the physics of hearing and seeing, matter in motion, heat, electricity and magnetism, the nature of matter, and a study of man's place in the physical universe. The course is directed towards the non-scientifically oriented student. Although recent advances in science and technology will be discussed, the emphasis in Physics 2. is a fundamental understanding of everyday experience in contrast to Physics 1. in which the emphasis is on developments in physics in the twentieth century. Three lectures per week plus an open, informal laboratory.

Mr. Gottlieb.

11. INTRODUCTORY PHYSICS.

Full course, Semester 2.

A non-traditional introductory course designed for students majoring in science. This course stresses simplicity and self-consistency of physical models and mathematical laws in explaining a variety of phenomena. Topics will include relativity, statistical and quantum physics, in addition to mechanics, electricity and magnetism, heat and optics. Although calculus is not a prerequisite, Physics 11. is a rigorous and challenging preparation for advanced courses in the sciences. Together with Physics 19., Laboratory, (see below) it satisfies the requirements for majors in biology, Science, Technology and Society, and for students in the pre-medical program. Three 50-minute lectures per week plus a discussion once a week for two course credits. Full course, Semesters 1, 2.

12. CLASSICAL PHYSICS.

Full course, Semesters 1, 2.

An introductory survey of classical physics for science majors and others who require a mathematically complete approach to the material and who expect to continue their study of physics beyond the introductory year. Problem-solving is emphasized and independent work by students is expected. Three lectures and one tutorial per week for two course credits. Credit for both Physics 11. and 12. is not granted. Permission of the instructor and of the departmental undergraduate adviser is required for entry into this course.

Mr. Goble.

19. INTRODUCTORY LABORATORY.

A laboratory course designed to accompany Physics 11. or 12. Emphasis is on physical measurements and techniques and on the ideas of applied mathematics needed to interpret experimental results. One meeting per week. One-half course credit. Students who are required to register for this course to satisfy departmental or program requirements do not pay extra tuition if concurrently registered for Physics 11. or 12. One-quarter course, Semesters 1, 2. Mr. Hohenemser, Mr. Gould.

113. QUANTUM PHYSICS.

A third semester introductory course in physics to follow either Physics 11. or 12. This course introduces the concepts of quantum physics with applications to the microscopic world. The philosophical implications of the theory are discussed. This course is appropriate for biology, philosophy, and S.T.S. majors as well as for physics and chemistry majors. Prerequisites: Physics 11. or 12. and Mathematics 12. or permission of instructor.

Full course, Semester 1. Mr. Gottlieb.

114. QUANTUM PHYSICS TUTORIAL.

This course continues the two year introductory sequence in physics for science majors and follows Physics 12. The material covered is identical to that in Physics 113. but is amplified by weekly tutorials. Students must be prepared to work independently. Prerequisite: Physics 12., corequisite: Mathematics 13.

Mr. Gottlieb.

Full course, Semester 1.

119. ELECTRONICS LABORATORY.

An introductory laboratory course in electronics, the goal of which is to build and understand several simple circuits using discrete, as well as integrated, solid state elements. The course will begin with fundamentals of DC and AC circuit theory and the use of basic test instruments such as the oscilloscope. More specialized instruments having applications in other areas will also be considered. The course may replace Physics 19. as an introductory laboratory for biology, chemistry, and premedical students. One lecture and two laboratories per week. No prerequisites other than algebra are required.

Full course, Semester 1.

Mr. Andersen.

123. STATISTICAL AND THERMAL PHYSICS.

An introduction to the concepts of statistical and thermal physics including statistical mechanics, thermodynamics, and kinetic theory. The course will be practical in nature and stress applications to biology and energy-related problems. The course should be appropriate for majors in biology, economics, geography, philosophy, and S.T.S. as well as in physics and chemistry. A knowledge of calculus is essential but no mathematical sophistication is assumed. Prerequisite: background in physics equivalent to Physics 11. or permission of instructor.

Full course, Semester 2. Mr. Gottlieb.

124. STATISTICAL AND THERMAL PHYSICS TUTORIAL.

This course treats the same topics as Physics 123, but is more mathematical in nature. Additional applications are made to

problems in physics and chemistry. Much of the subject matter is conducted in tutorials. The student should be prepared to work independently. Prerequisites: Physics 12. and Mathematics 12. Credit for both Physics 123. and 124. is not

Full course, Semester 2.

Mr. Gottlieb.

129. ELECTRONICS AND INSTRUMENTATION LABORATORY.

A second year laboratory course for science majors. During the fall semester students will develop their knowledge of discrete and integrated circuit theory by designing, building, and testing circuit models. Operational amplifiers and logical networks will be discussed as well. During the spring semester, students will concentrate on experimental design and measurement using their background in electronics. Departmental facilities such as the machine shop and electronics stockroom will be available. Emphasis will be on measurement of the properties of the fundamental particles including protons, neutrons, electrons, and positrons, and gamma ray photons. One tutorial and two laboratory sessions per week. Prerequisite: Physics 19. or equivalent and Physics 113. for the spring semester.

Full course, Semesters 1, 2.

132. ALTERNATIVE ENERGY SYSTEMS LABORATORY.

Refer to description under S.T.S. 132.

Full course, Semester 1.

Mr. Gottlieb.

164. ELECTRICITY AND MAGNETISM. Not offered, 1976-77.

An intermediate level course dealing with the electromagnetic field. This course develops the phenomenology and theories leading to the formulation of Maxwell's equations. Scalar and vector potential theory, the elements of radiation dynamics, and relativistic covariance are discussed. Prerequisites: Physics 12. and Mathematics 13.

Full course, Semester 1.

Mr. Kohin.

174. MODERN PHYSICS.

An intermediate level course dealing with quantum mechanics and applications to atomic, nuclear, and solid-state physics. Prerequisites: Physics 124. and Mathematics 13. Full course, Semester 2. Mr. Andersen.

188. INDEPENDENT PROJECTS.

Independent study on topics in experimental or theoretical physics directed by a faculty sponsor.

Variable credit, Semesters 1, 2. Staff.

201. CLASSICAL THEORY OF FIELDS.

A course designed to prepare the physics major for graduate work in physics. Topics covered include classical mechanics, electrodynamics, and mathematical methods of physics. The lectures are the same as in Physics 301., but evaluation is separate. Given in four consecutive seven week sections which may be taken separately. Three quarters of a credit is given for each section. Prerequisites: Physics 164. and 174. One-and-one-half course, Semesters 1, 2. Mr. O'Neill, Mr. Weiss.

205. QUANTUM MECHANICS.

A course designed to prepare the physics major for graduate work in physics. The mathematical framework of quantum mechanics is covered. The lectures are the same as in Physics 305., but evaluation is separate. Prerequisites: Physics 124. and Mathematics 13.

Full course, Semesters 1, 2.

Mr. Goble.

209. STATISTICAL MECHANICS. Not offered, 1976-77.

A course designed to prepare the physics major for graduate work in physics. Lectures are the same as in Physics 309., but evaluation is separate. Prerequisites: Physics 174. and 123. or 124.

Full course, Semester 2.

Mr. Davies.

219. PHYSICAL INSTRUMENTATION LABORATORY.

An introduction to modern physical research instrumentation. The course deals with the advanced interpretation of physical measurements in modern physics and is the same as Physics 129. except that interpretation of experiments must be at the advanced undergraduate or beginning graduate level. Undergraduates who have completed 129. may register for 219. Full course, Semester 2.

Mr. Hohenemser.

230. DIRECTED READINGS IN PHYSICS.

Directed readings in physics to provide the special needs not covered in regular courses.

Variable credit, Semesters 1, 2. Staff.

231. SPECIAL PROJECTS IN EXPERIMENTAL PHYSICS.

Independent laboratory projects done under the guidance of a faculty adviser.

Variable credit, Semesters 1, 2. Staff.

232. SPECIAL PROJECTS IN THEORETICAL PHYSICS.

Independent projects in theoretical physics done under the guidance of a faculty member.

Variable credit, Semesters 1, 2.

Staff.

233. SPECIAL PROJECTS IN APPLIED PHYSICS.

Independent projects in applied physics done under the guidance of a faculty adviser.

Variable credit, Semesters 1, 2.

Staff.

301. CLASSICAL THEORY OF FIELDS.

An integrated year course in classical mechanics and electrodynamics. Topics covered include variational principles, canonical transformation, Hamilton-Jacobi theory, special theory of relativity, Lorentz transformations and the Lorentz group, the stress tensor and continuous media, Maxwell's equations, electromagnetic potentials, boundary value problems, radiation theory, and self-interactions.

One-and-one-half course, Semesters 1, 2, Mr. O'Neill, Mr. Weiss.

303. RESEARCH APPRENTICESHIP.

Direct participation in the experimental and theoretical research groups of the department. The student spends seven weeks working in each research group. Ph.D. students should enroll in this course for two semesters, M.A. students for one semester. Full course, Semesters 1, 2.

305. QUANTUM MECHANICS.

A comprehensive course in quantum mechanics. Topics include the Schrödinger equation and the general structure of wave mechanics, symmetries and angular momentum, potential scattering, perturbation theory, interaction of radiation with matter, spin, second quantization, and an introduction to relativistic quantum mechanics.

Full course, Semesters 1, 2. Mr. Goble.

309. STATISTICAL MECHANICS. Not offered, 1976-77.

A comprehensive course in thermodynamics, statistical mechanics, and kinetic theory at an advanced level. Topics covered include ensembles, the theory of density matrices, ideal and real gases, Fermi and Bose distributions, Debye theory, molecular field theory, the Boltzmann equation, and the Onsager relations.

Full course, Semester 2.

Mr. Davies.

310. SOLID STATE PHYSICS.

An introduction to the quantum theory of solids. Topics covered include Born-Oppenheimer approximation, lattice dynamics, phonon spectra, electron structure of metals, insulators, and semi-conductors, transport theory.

Full course, Semester 1.

Mr. Gould.

PHYSICS 109

311. ADVANCED QUANTUM MECHANICS Not offered, 1976-77.

Course includes relativistic quantum mechanics, quantum electrodynamics, and the many-body problem. Prerequisite: Physics 305. or equivalent.

Full course, Semester 1.

Mr. Davies.

312. APPLICATIONS OF GROUP THEORY TO PHYSICS.

Not offered, 1976-77.

Representation theory for finite groups. Applications to crystallographic point groups. Representations of continuous impact groups: the rotation group. The Wigner-Eckart theorem and selection rules. The permutation group and its application to the system of identical particles. Classification of states of a multi-electron atom.

Full course, Semester 2.

Mr. Kohin.

314. THEORY OF MANY-PARTICLE SYSTEMS.

Not offered, 1976-77.

The equilibrium and transport properties of many-body systems are studied at zero and non-zero temperatures using the formalism of thermodynamic Green's functions. Applications are made to the electron gas, the degenerate Bose and Fermi gas, and superconductivity.

Full course, Semester 2.

Mr. Gould.

315. CRITICAL PHENOMENA.

Landau theory of second order phase transitions. Ornstein-Zernicke theory, and calculation of critical exponents. Review of recent experimental work near magnetic, gas-liquid, ferroelectric, superconducting, and structural phase transitions. Mr. Gould. Full course, Semester 2.

316. MAGNETIC RESONANCE.

Not offered, 1976-77.

Survey of current research utilizing various resonance techniques.

Full course, Semester 2.

Mr. Andersen.

317. SOLID STATE SPECTROSCOPY. Not offered, 1976-77.

Theoretical and experimental review of the physics of solids observed using spectroscopic methods. Full course, Semester 2. Mr. Hohenemser.

325. RESEARCH SEMINAR.

A student-participation seminar in current research problems. Staff. One-quarter course, Semesters 1, 2.

330. TOPICS IN EXPERIMENTAL PHYSICS.

A specific topic in experimental physics is considered at the research level. Topics are selected on the basis of current interest.

Variable credit, Semesters 1, 2.

Staff.

335. TOPICS IN THEORETICAL PHYSICS.

A specific topic in theoretical physics is considered at the research level. Topics are selected on the basis of current interest.

Variable credit, Semesters 1, 2.

Staff.

340. COLLOQUIUM.

Weekly invited lecturers speaking on research topics of current interest. Required for all graduate students. Staff. No credit, Semesters 1, 2.

350. RESEARCH.

Thesis and dissertation preparation.



Psychology

DEPARTMENT FACULTY

Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology, Department Chairman

Mortimer H. Appley, Ph.D., Professor of Psychology, President of the University

Robert W. Baker, Ph.D., Professor of Psychology Roger Bibace, Ph.D., Professor of Psychology

Tamara Dembo, Ph.D., Professor of Psychology, Emeritus

Bernard Kaplan, Ph.D., Professor of Psychology Donald G. Stein, Ph.D., Professor of Psychology Ina C. Uzgiris, Ph.D., Professor of Psychology Morton Wiener, Ph.D., Professor of Psychology

Leonard E. Cirillo, Ph.D., Associate Professor of Psychology Joseph H. deRivera, Ph.D., Associate Professor of Psychology* Rachel Falmagne, Ph.D., Associate Professor of Psychology James D. Laird, Ph.D., Associate Professor of Psychology David A. Stevens, Ph.D., Associate Professor of Psychology Nicholas S. Thompson, Ph.D., Associate Professor of

Psychology, Adjunct Associate Professor of Biology* William Damon, Ph.D., Assistant Professor of Psychology Joseph Schmuller, Ph.D., Assistant Professor of Psychology John A. Whiteside, Ph.D., Assistant Professor of Psychology

*On Sabbatical leave, 1976/77

ADJUNCT FACULTY

Edward E. Sampson, Ph.D., Professor of Sociology and Adjunct Professor of Psychology

David Zern, Ph.D., Associate Professor of Education and Adjunct Associate Professor of Psychology

AFFILIATED STAFF

D. Frank Benson, M.D., Professor of Psychology, Affiliate Donald M. Broverman, Ph.D., Professor of Psychology, Affiliate J. Whitney Brown, M.D., Professor of Psychology, Affiliate R.J.O. Catlin, M.B., L.R.C.G.P., Professor of Psychology, **Affiliate**

Harold Goodglass, Ph.D., Professor of Psychology, Affiliate Davis H. Howes, Ph.D., Professor of Psychology, Affiliate Irving Hurwitz, Ph.D., Professor of Psychology, Affiliate Allan F. Mirsky, Ph.D., Professor of Psychology, Affiliate William Vogel, Ph.D., Professor of Psychology, Affiliate Richard Walton, M.D., Professor of Psychology, Affiliate Marlene Oscar-Berman, Ph.D., Associate Professor of Psychology, Affiliate

Nelson M. Butters, Ph.D., Associate Professor of Psychology, **Affiliate**

Laird S. Cermak, Ph.D., Associate Professor of Psychology, Affiliate

John Frey, M.D., Associate Professor of Psychology, Affiliate Edith F. Kaplan, Ph.D., Associate Professor of Psychology, Affiliate

Jeffrey Rosen, Ph.D., Associate Professor of Psychology, **Affiliate**

Carolyn Cotsonas, J.D., Assistant Professor of Psychology, Affiliate

Robert A. Ciottone, Ph.D., Assistant Professor of Psychology,

David Finkel, Ph.D., Assistant Professor of Psychology, Affiliate Deborah S. Kellett, Ph.D., Assistant Professor of Psychology,

Lawrence Peterson, Ph.D., Assistant Professor of Psychology, Affiliate

Edgar B. Zurif, Ph.D., Assistant Professor of Psychology. Affiliate

Shannon T. Devoe, Ph.D., Research Associate Robert B. Shilkret, Ph.D., Research Associate Mary Walsh, Ph.D., Clinical Associate Victor Pentlarge, M.D., Psychiatric Consultant

UNDERGRADUATE PROGRAM

The department has emphasized in undergraduate courses and research the same respect for scholarship as it has at the graduate level. The aims of our undergraduate program are: to promote respect for intellectual activity; to encourage an attitude of intelligent inquiry; and to highlight the implications of psychological knowledge for an understanding of everyday phenomena. The department offers educational experiences that will enhance the students' liberal arts background as well as prepare them for graduate work in psychology or related disciplines.

Course Numbers. The undergraduate course numbering system has been reorganized and simplified. Ranges of course numbers now have specific meanings according to the following key:

Range	Meaning
100-109	Courses all majors must take (General,
	Quantitative Methods)
110-149	Primarily freshman and sophomore survey courses; psychology as a life science
150-189	Primarily freshman and sophomore survey courses; psychology as a social science
190-199	Special freshman and sophomore courses
200-214	Laboratory courses
215-229	Research courses
230-234	Primarily junior and senior survey courses; psychology as a life science
234-239	Primarily junior and senior survey courses; psychology as a social science
240-259	Primarily junior and senior specialized seminars (may not be taken for graduate credit without special permission)
260-289	Primarily junior, senior and graduate specialized seminars (may be taken for graduate credit without special permission)
290-299	Special courses (honors, directed readings,

research) Major Requirements. The new expanded major in psychology, which applies to students declaring their major after September 1, 1974, consists of both psychology and related course requirements. The psychology requirements are designed to insure exposure to one of the most basic distinctions in contemporary psychology, that of psychology approached as a life or a social science: to insure some familiarity with experimental and observational methods (laboratory and practicum requirement); to provide background in essential quantitative skills (statistics requirement — Psychology 105.); and to guarantee several contacts with faculty in advanced, small-enrollment seminars.

The related requirement of two minors reflects the conviction of the department that all academic areas are actually or potentially related to psychology, but also that scholarship involves, at some point, studying subject matter in considerable depth.

1. Psychology Courses

Total of at least eight full-course equivalents, including:

a. 101. General Psychology

b. 105. Quantitative Methods

 c. One full-course equivalent from range 110-149 or 230-234 (Survey courses: psychology as a life science)

d. One full-course equivalent from range 150-189 or 235-239 (Survey courses: psychology as a social science)

e. Two full-course equivalents from range 200-229 (laboratory and research courses)

f. Two full-course equivalents from range 240-289 (upper level seminars)

2. Related Courses

Related courses are defined in terms of minors. A minor consists of at least four full-course equivalents in a single area or department. Two minors must be chosen from the following areas or departments:

Biology Chemistry

Engineering, Applied Math, or Computer Science

Economics

Education

English

Foreign Languages and Literatures (includes

Linguistics)

Geography

Government and International Relations

History

Mathematics

Philosophy

Physics

Science, Technology and Science

Sociology

Visual and Performing Arts

There are two restrictions on permissible course sequences within an area or department:

a. In the case where a department offers more than one introductory course, only the course or courses designed to prepare students for further work in the area may be taken for related credit. In most departments, this excludes introductory courses designed for non-majors. Detailed information about this restriction may be obtained from the Department of Psychology.

b. The courses must form a coherent sequence or program within the context of the department in which a minor is taken. In most cases, this will be self-evident. However, in doubtful cases the student must consult his or her psychology adviser and the department concerned.

The Honors Program. Honors work in psychology is available to seniors who have demonstrated high scholastic achievement and the ability to work independently in scholarly situations. Students may seek admission to the honors program by requesting the faculty member, under whose direction they intend to do research work, to submit their name to the full faculty for consideration. Students in the honors program carry out an independent empirical research project under the sponsorship of one or more faculty members. This research provides basis for a thesis which, upon completion, is presented and defended by the students before an Examining Committee of faculty members. On the basis of the report of the Examining Committee and the students' advisers for the project, the department may recommend to the College Board that the students be awarded Departmental Honors at one of the following levels: Highest Honors, High Honors, or Honors in Psychology.

Students preparing for graduate work should obtain a reading knowledge of French, German, or Russian.

GRADUATE PROGRAM

General Requirements. The department admits to graduate work only those students who plan to enroll in the Ph.D. program on a full-time basis. The overall aim of the graduate program is to provide students with a general integrated background covering the various areas of psychology. Within these emphases there are several specialized programs available and these are described briefly below.

The lack of rigid boundaries between specialty areas and the lack of carefully specified curriculum sequences require in students a continuous process of self-definition regarding the

form of their graduate training. An adviser is appointed for each student, and it is expected that student and adviser will regularly review the student's progress and plans. However, our experience clearly indicates that there are persons who have difficulty tolerating the ambiguities in this kind of situation, and applicants are urged to assess themselves carefully in relation to the personal demands of such a setting. While several different traditions and points of view toward the study of psychology are represented in our department, including the behavioristlearning orientation that is characteristic of many American universities, there is a basic emphasis at Clark on the organismic-developmental approach (e.g., Heinz Werner, Jean Piaget). This emphasis does not in any way prevent the free and open expression or espousal of other points of view, but it does provide a distinctive theoretical coloring that is somewhat unusual in American psychology. In all the department's programs, including clinical and rehabilitation psychology, there is a primary concern with theory, conceptual analysis, and research. Participation in research is strongly encouraged all through the graduate experience and the nature of the research is determined primarily by a common interest of each student with that of a faculty member. The student is expected to contribute significantly to the conceptualization, design, execution, analysis, and writing-up of the work.

Course Work. Students ordinarily are expected to take four courses in each semester for their first two years, including in their first year Problem, Theory & Method in Psychology (301.) and Statistical Methods (302.). In subsequent years, students continue to enroll in a full program which ordinarily includes two or three content courses, research and reading courses, etc. A total of at least 18 one-semester courses are required for admission to candidacy for the Ph.D. of which at least two must be from among a group including personality, social, developmental, phenomenological, and cognition, and at least two must be from among the group including physiological psychology, learning, perception, and animal behavior.

In order to provide a basis for evaluation of students' progress early in their career, all students are required to write two papers (or equivalent) during each of their first four semesters, except that they need not write such papers during the semester in which they complete their M.A. thesis. Papers may be required by instructors in all or none of a student's courses. In the latter case, the student is required to submit papers in a minimum of two courses. Early in the semester, before writing the paper, the student should discuss the proposed content with the instructor. In some cases, the instructor may substitute some other "evaluatable performance" (e.g., an examination), for a paper. Note that it is the student's responsibility to ensure that the instructors in at least two of his/her courses understand that she/he intends to submit these papers to them. It is the instructor's responsibility to define what constitutes an adequate fulfillment of this requirement. The student is also responsible for informing the department office before the end of the semester, what papers will be submitted, and which instructor will evaluate those papers. If students have any questions they should consult the instructor or their general adviser.

Teaching apprenticeship program. All students are expected to become involved in teaching as apprentices. Since many students ultimately become college and university teachers, acquaintance with the demands and techniques of teaching over a range of courses is considered an important part of their graduate training. Ordinarily, a student might spend an average of three to six hours a week in an apprenticeship.

Qualifying examination in quantitative methods. All students are required to demonstrate competence in quantitative methods by satisfactory performance on a qualifying examination in that area. The examination is normally taken at the end of the student's first year, at the completion of the course in quantitative methods.

M.A. degree. The M.A. degree is awarded after satisfactory completion of at least eight one-semester courses or their

equivalent, an M.A. thesis based on the collection and analysis of data, and an oral examination on the thesis. The requirements for the M.A. degree are to be completed within the first two years of graduate work and students who have not completed their M.A. degree by that time will not be permitted to enroll for the third year.

Language requirement. All students are required to demonstrate their ability to translate professional material in a foreign language. The examination will require that the student translate a relatively brief passage, in a relatively brief time, with the aid of any materials the student wishes. Students are expected to have met this requirement before admission to candidacy for the Ph.D.

Major paper and oral examination. This paper, ordinarily to be written by the end of the first half of the second semester of the student's third year, is expected to demonstrate the student's mastery of the research and theory in his/her area of specialization. An oral examination of this material will also be held shortly after the paper has been submitted.

Admission to Ph.D. candidacy: Satisfactory completion of at least 18 one-semester content courses (including 301, and 302.), as well as the above requirements, is necessary for admission to candidacy for the Ph.D. degree.

Ph.D. dissertation: The student demonstrates the ability to conduct independent research (under the supervision of a dissertation committee) by the presentation of an acceptable dissertation.

Ph.D. oral examination. Following submission of the dissertation to the department, a final oral examination is held in which the student presents and defends his/her dissertation and shows his/her competence in a general field of psychology as well as in his/her area of specialization.

SPECIAL TRAINING PROGRAMS

Training Program in Clinical Psychology. The Clinical Psychology Training Program which aims to provide students with competence in clinical methods as an integral part of their scholarly pursuits, requires, in addition to the other usual departmental requirements, the satisfactory completion of the Clinical Methods sequence; participation in the Psychological Services Center; completion of a year's internship in an agency approved by the American Psychological Association. Evidence of proficiency in clinical psychology through review of past clinical work carried out by the student or through examinations based on the assignment of a case specifically for this occasion will be required

The goal of the clinical training program is to train scholars who can effectively function as scientists and/or professionals in different types of academic and/or clinical settings with diverse populations. All graduate students, including clinical students, are required to demonstrate mastery of general theoretical principles and methodologies in psychology. Within the overall framework of the clinical training program, there is, in addition to the more traditional opportunities, opportunity for training in the following realms:

a) Child clinical (including the child's personality and cognitive disabilities in the context of family and school)

b) Human neuropsychology (including clerkships and internships in the Boston V.A. Aphasia Unit, in addition to the seminars and clinical practica offered yearly)

c) Family interactions (including consultation with the Department of Family Practice, U. Mass. Medical School)

The Psychological Services Center was established in 1950 to train doctoral candidates in clinical psychology and to offer diagnostic and therapeutic services to the Clark community. Graduate students in the clinical training program participate under close supervision for four years, receiving training in psychological testing, behavior therapy, psychotherapy, and diagnostic interviewing. One year of advanced participation may be waived if a student finds it necessary for financial reasons to obtain employment and if the employment provides experience

equivalent to the training obtained in the Psychological Services Center. For further information, write to the director of the program, Dr. Roger Bibace.

Developmental Psychology Program: This program is designed to prepare students for a career in research, teaching. and scholarly activity in developmental psychology. The goals are to impart to students competence in the variety of methods. techniques, and formats of conceptualization involved in the analysis of psychological development. Guided by those general aims, the developmental program provides in-depth training in special content areas such as child and infant development: perceptual development: language development: moral development; developmental psychopathology, etc. There is a nursery school associated with the University. There is also a recently constructed laboratory which provides facilities for both empirical and clinical research with children. For further information, write to the director of the program, Dr. Bernard Kaplan.

Social Psychology Program: Perhaps the most important feature of the social-personality program at Clark is its rather unique emphasis on the description and analysis of social experience. While we are also interested in how persons behave, we have a concern for experience in its own right. We want to know how and what persons feel, think, and value, as well as how they behave. Consequently, those of use who are most directly involved in the program have developed research strategies that tap into the experiences of everyday life. Conventional experimental work in areas such as verbal and nonverbal communication, socialization, attribution processes, selfconcepts, and interpersonal relations is going on in the department. Less traditional emphases include the study of the phenomenology of social processes, and the ethological and genetic approaches to understanding social behavior. Uniting these diverse activities is a common concern with the theoretical and metatheoretical structures which may enable us to understand social phenomena and the philosophical bases for these conceptualizations. For further information, write to the director of the program, Dr. Joseph deRivera.

Experimental Psychology Program: Training is offered in the general areas of perception, cognitive psychology, and animal and human learning, according to a flexible sequence of courses and seminars covering the theoretical foundations. content, and methodology of these areas, as well as specialized topics. The typical orientation in teaching and research is an integrative one, preserving and exploring the connections between these traditionally defined areas and other areas of psychology (developmental, ethology, phenomenology, etc.). The emphasis of the program is on the acquisition of both theoretical and empirical skills. Towards this end, specialized seminars are offered in or around the areas of special interest of the various faculty members: participation in ongoing research projects is encouraged, as well as research generated by students' interests. In teaching and research, the experimental faculty aims at preserving the continuity with both the mainstream of ongoing psychology research, and the values and perspective traditional to Clark, which emphasize conceptual sophistication and theoretical relevance, and discourage narrow-sightedness. The research areas currently represented in the department include thinking, reasoning, psycholinguistics, human learning and memory, cerebral hemispheric effects and linguistic information processing, animal discrimination learning and motivation, infant learning and perception. environmental perception and cognition, perceptual and aesthetic development, logical and language development, verbal and non-verbal communication. For further information write to the department chairman, Dr. Seymour Wapner.

Psychobiology Training Program: The program in psychobiology has two major foci: physiological psychology and animal behavior. Regardless of area, students are encouraged to begin research as soon as possible after acquiring an understanding of the theoretical basis of an area and the implications of the work. Students are encouraged to develop

their own research techniques as well as to master traditional skills and methodologies. For more information on training in physiological psychology, write to Dr. Donald G. Stein; for more information on animal behavior, write to Dr. David A. Stevens.

Rehabilitation Research Training: In conjunction with all other areas of specialization, rehabilitation research training is available. This training is designed to prepare students for investigations of psychological problems as they occur in everyday life. Emphasis on development of novel techniques and concepts is the main feature of the training. An integral part of the training is an apprenticeship-practicum during which the various phases of research in real-life settings are examined under the guidance of a staff member. This training is especially pertinent to those who are interested in social-emotional and value problems of handicapped and non-handicapped people. For further information, write to Dr. Tamara Dembo.

Interdisciplinary Work: The department recognizes the interest of some students to undertake study and research which cuts across disciplines or areas that now exist. Interdisciplinary activity by students is feasible at Clark inasmuch as some members of the Psychology faculty are now, or recently have been, engaged in activities with faculty of other departments.

Applicants for graduate study in psychology, who are interested in securing more detailed information concerning the department and its programs, are urged to write to the department for a brochure, "Information on the Graduate Program in Psychology."

THE HEINZ WERNER INSTITUTE OF DEVELOPMENTAL PSYCHOLOGY

Associated with the department is the Heinz Werner Institute of Developmental Psychology, which has three aims: first, to integrate various research programs dealing with developmental problems; second, to bring to Clark University scholars, teachers, and research workers from disciplines for which developmental problems are pertinent such as anthropology, biology, and certain areas of medicine; third, to train research workers on post-doctoral levels in the comparative-developmental approach to behavior. Information regarding post-doctoral work at the Institute may be obtained by writing to Dr. Bernard Kaplan.

COURSES

101. GENERAL PSYCHOLOGY.

Introduction to the principles of human behavior. No prerequisite. Unless otherwise noted, this course is a prerequisite to all other psychology offerings.

Full course, Semesters 1, 2. Mr. Laird, Mr. Stevens.

105. QUANTITATIVE METHODS.

The theory of experimental inference and the logic of experimental design.

Full course, Semester 1. Mr. Schmuller. Semester 2. Ms. Falmagne.

130. PSYCHOLOGY OF LEARNING.

Methods and findings in the study of learning are discussed, with emphasis on their relation to theories of learning. Selected controversial issues are examined.

Full course, Semester 1.

Mr. Stevens,

140. SENSATION AND PERCEPTION.

An introductory course that includes exposure to the basic concepts of sensory physiology and sensory processes. Emphasis is on auditory and visual perception, but all six major senses are considered. The course is aimed at providing a solid background in this, the oldest area of experimental psychology, but also deals with such topics as the relation between perception and aesthetics (both of the everyday and concert-hall variety), and the development and subsequent degeneration of

sensory and perceptual capabilities that occur between birth and death.

Full course, Semester 1. Mr. Whiteside.

141. PRIMATE SOCIAL BEHAVIOR. Not offered, 1976-77.

The study of the social behavior of monkeys and apes highlights central problems in psychological, zoological, and anthropological approaches to behavior. It also has important implications for the past evolution and present nature of man's sociality. (See also Biology 182.)

Mr. Thompson.

150. INTRODUCTION TO CHILD PSYCHOLOGY.

The development of intellectual and social functioning in the child will be discussed. Theoretical approaches to conceptualizing change in the developing child will be emphasized: psychoanalytic, Piagetian, and behavioristic approaches will be contrasted.

Full course, Semesters 1, 2. Mr. Damon, Ms. Uzgiris.

162, PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR.

Psychoanalytic contribution to the understanding of human behavior and conflicts. Limited to 40 students. No prerequisite. Full course, Semesters 1, 2. Mr. Bibace.

169. THE PSYCHOLOGY OF LOVE AND HATE.

Not offered, 1976-77.

An examination of how the emotions of love and hate are manifested in infancy, childhood, adult life, and in social-collective phenomena. The course will deal with related emotions such as envy, greed, jealousy, despair, etc. Prerequisite: permission of instructor.

Mr. Kaplan.

170. INTRODUCTION TO SOCIAL PSYCHOLOGY.

An examination of the relationship between the individual and the social system as understood through the theories, methods, findings, and applications of social psychology. (See also Sociology 105.)

Full course, Semester 1.

Full course, Semester 2.

Mr. Sampson.

Mr. Cirillo.

172. PSYCHOLOGY OF PERSONALITY.

Consideration of various theoretical approaches, including psychoanalytic, behaviorist, and self theories, and of research work in areas such as anxiety, stress, unconscious processes, emotion, and motivation.

173. ABNORMAL PERSONALITY.

A descriptive survey of the major forms of psychological disturbances with consideration of their causes and their significance for personality theory. The principal disturbances included are: mental retardation, behavioral effects of central nervous system pathology, psychosomatic conditions, character disorders, psychoneuroses, and psychoses.

Full course, Semesters 1, 2.

Mr. Baker.

184. PHENOMENOLOGICAL PSYCHOLOGY.

Not offered, 1976-77.

The description and analysis of experience, particularly emotional experience. Behavior is considered as an independent rather than a dependent variable. We examine the implications of concepts such as assertion, commitment, identification, and liberation, and search for the essential structures of experience.

Mr. deRivera.

185. HUMANISTIC PSYCHOLOGY. Not offered, 1976-77.

Humanistic psychology is concerned with knowledge about personal development, creative transactions, and the

establishment of conditions for realizing human values. Ideas in this field will be tested by seeing whether or not they apply to ourselves. Therefore, this course has a series of "laboratories" and the student should be willing to be a member of a small group and participate in projects that range from spiritual work to the work of changing our society. Interested students should see the fuller description in Room 201, Jonas Clark Hall. No prerequisites.

Mr. deRivera.

191. HISTORY OF PSYCHOLOGY. Not offered, 1976-77.

Historical development of theories and methods of psychology. Limited to 50 students.

Mr. Kaplan.

192. CONCEPT OF SPACE IN PSYCHOLOGY.

Not offered, 1976-77.

Freshman seminar: psychology of spatial relations. This seminar is part of a cluster course called "Concepts of Space." An examination of the pervasiveness of spatial relations and spatial dimensions in the interpersonal and intrapersonalintrapsychic functioning of humans. The course will deal with ontogenesis (child development), intrapersonal relations, the formation and dissolution of the body schema. psychopathology, etc. Limited to freshmen.

Mr. Kaplan.

200. LABORATORY IN ETHOLOGY. Not offered, 1976-77.

The observation of wild animals in the field. Prerequisite: Psychology 105. and permission of instructor. Limited to 10 students.

Mr. Thompson.

201. LABORATORY IN SOCIAL PSYCHOLOGY.

Focuses on the behavior of small groups. Participation in this laboratory includes chairing one of the discussion groups in Psychology 184. Limited to 20 students. Prerequisites: Psychology 170., 105.

Full course, Semester 2.

Staff.

202. LABORATORY IN CHILD RESEARCH.

An introduction to methods used in the study of child thought and behavior. Students will conduct research projects involving observational, experimental, and interviewing techniques. Discussions will consider means of data analysis as well as data collection. Prerequisites: Psychology 105., 150. Limited to 16 students.

Full course, Semester 2.

Mr. Damon.

203. LABORATORY IN HUMAN COGNITION.

Not offered, 1976-77.

Experimental studies in the area of concept learning, memory, reasoning, and language comprehension. The course is aimed at familiarizing the students with the methods used in cognitive psychology, the range of problems studied, and the theoretical concepts used to interpret experiments. Skills in experimental design, statistical analysis, reading and summarizing scientific journal articles, and scientific writing will be acquired in the context of conducting two or three closely supervised experimental projects and one more independent project. Prerequisite: Psychology 105.

Ms. Falmagne.

204. LABORATORY IN LEARNING. Not offered, 1976-77.

The course is designed to familiarize students with research methods and experimental designs used in investigations of theories of learning and learning phenomena, with both human and animal subjects. Limited to 20 students. Prerequisites: Psychology 105., 130.

Mr. Stevens.

205. LABORATORY IN THINKING.

Empirical studies are carried out by the class in areas such as representation, problem-solving, and psycholinguistics. Theoretical and methodological background of the studies is considered in historical context. Emphasis is on the relationship between evidence and inference in collecting and analyzing data and in writing research reports. Prerequisites: Psychology 105., permission of instructor.

Full course, Semester 1.

· Mr. Cirillo.

206. LABORATORY IN PERSONALITY.

Issues and problems in psychological research in general and in the personality area in particular are examined, the problems being examplified in studies developed and performed by the class group and by individuals. Experiments may be in any of the conventional areas of personality research, such areas as perceptual defense, motives and performance, self perception, experimenter influence, and emotions. Prerequisites: Psychology 172., 105., permission of instructor. Full course, Semester 1, Modular Term. Mr. Broverman, Mr. Laird.

207. LABORATORY IN PERCEPTION. Not offered, 1976-77.

This is an intensive course stressing mastery of experimental skills and scientific writing. The course will involve five experiments and an independent project. Responsibilities will include written reports for the five experiments and a written report and in-class presentation of the independent project. There will be no examinations. A unique feature of the course is that each report may be resubmitted up to a total of three times. with only the highest grade counting. The experiments will include investigation of sensory and perceptual phenomena in a variety of sense modalities, and will make use of the department's extensive collection of experimental apparatus. including the PDP-12 laboratory computer. Prerequisites: Psychology 105., permission of instructor.

Mr. Whiteside.

208. LABORATORY IN CHILD PSYCHOLOGY.

Introduction to research methods employed in the study of child behavior through participation in studies carried out by the class, with particular emphasis on experimental designs currently used in the field. Related theoretical and methodological issues will be discussed with the aim of placing the experimental study of child behavior within the study of development. Prerequisites: Psychology 105., 150., permission of instructor.

Full course, Semester 1.

Ms. Uzgiris.

210. LABORATORY IN PHENOMENOLOGY.

Not offered, 1976-77.

This laboratory is designed to acquaint students with the method of "conceptual confrontation" a type of phenomenology that is useful in exploring effects and interpersonal phenomena. Prerequisite: Psychology 184., or a philosophy course in phenomenology.

Mr. deRivera.

211. FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING.

Illustration of various cognitive and social-interpersonal models of human behavior in the classroom setting. Special consideration will be given to the work of Freud, Piaget, Skinner, Wertheimer, Lewis, and F. Kluckhohn. Students will carry out field observations, and formulate and execute their own individual projects. (See also Education 211.) Prerequisites: Psychology 105., permission of instructor. Mr. Zern.

Full course, Semester 2.

213. LABORATORY IN INTERPERSONAL RELATIONS.

Interviewing in the area of interpersonal relations with emphasis on value possessions, value transmissions, and value losses. Corequisite: Psychology 286. Limited to 20 students. Full course, Semester 2. Ms. Dembo.

214. LABORATORY IN REHABILITATION.

Stress is placed on interview technique in the study of rehabilitation issues. Corequisite: Psychology 253. Limited to 20 students.

Full course, Semester 1.

Ms. Dembo.

216. RESEARCH IN EARLY SOCIAL DEVELOPMENT.

Students will participate in an on-going research program focusing on the development of social and moral conceptions in young children. Weekly meetings will discuss study design, data analysis, and methods of data collection. Students will read and discuss relevant socialization literature, and will participate in the construction and execution of research projects. Prerequisites: Psychology 202. or 208., permission of instructor. Full course, Semester 1.

217. RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD.

With roots in Piaget's theorizing, a constructivist-interactionist approach to the study of development in infancy and early childhood will be exemplified through the findings and problems from an on-going research project. Students will formulate pertinent studies, participate in their execution, and prepare papers describing their work. Prerequisite: permission of instructor.

Full course, Semesters 1, 2.

Ms. Uzgiris.

218. RESEARCH IN ANIMAL BEHAVIOR.

Weekly meetings in which research literature of interest to the group is reviewed, and participants' research projects are designed and evaluated. Prerequisite: permission of instructor. Variable credit, Semester 1. Mr. Stevens, Mr. Thompson.

219. RESEARCH IN BRAIN DAMAGE AND BEHAVIOR.

This is a course that lasts at least one academic year and is open to anyone who has the high level of motivation and intellectual curiosity necessary to develop and carry out an intensive program of research on the relationship between brain function and the organization of behavior. Essentially, the course takes the form of a "tutorial" in which there is a very close working relationship between students, the professor, and the graduate students working in the laboratory. There is active involvement in all phases of research, including searching available literature, planning and design of experiments, all surgical and histological procedures, data analyses, and final preparation of the material for presentation (by the students) at scientific meetings or publication. It must be emphasized that while solid grasp of experimental techniques is necessary, the development of conceptual and theoretical skills is given first priority. Enrollment is strictly limited and is by invitation of the instructor. Prerequisites: High academic standing. Biological or experimental background desirable but not essential. Full course, Semesters 1, 2. Mr. Stein.

220. RESEARCH IN LEARNING AND MOTIVATION.

Students will participate in the design, conduct and interpretation of experimental research on problems in animal discrimination learning and motivation. Prerequisite: permission of instructor.

Variable credit, Semester 2.

Mr. Stevens.

222. RESEARCH IN HUMAN COGNITION.

The information processing approach is applied to such problems as attention, memory, visual and auditory cognition.

Projects might include: (1) memory for unattended messages; (2) hemispheric differences in metacontrast; and (3) multi-dimensional scaling analysis of memory uncoding. Prerequisite: permission of instructor.

Full course, Modular Term.

Mr. Schmuller.

226. RESEARCH IN PERCEPTUAL DEVELOPMENT.

This course involves collaboration between the instructor and students on individual research projects that fall within the scope of the instructor's research program in perceptual development. For purposes of the course, the study of perceptual development is defined as the study of the development over age or practice, of patterns of activity that are associated with the solution of perceptual tasks involving the visual, auditory, tactual, olfactory, and/or thermal senses. Experience has shown that the course demands considerable investment of time and that its aims are unlikely to be fulfilled in one semester; thus students should plan to register for at least two semesters. Enrollment in mid-semester is possible. Prerequisites: Psychology 105., Psychology 140., and one laboratory course, permission of instructor. Mr. Whiteside. Full course, Semesters 1, 2, Modular Term.

228. RESEARCH ON DEVELOPMENTAL ASPECTS OF TRANSACTIONS OF PERSONS-IN-ENVIRONMENTS.

Theory, findings, and research problems deriving from an ongoing research program — an organismic-developmental systems approach to the analysis of transactions of persons-inenvironments — will be discussed. Empirical studies on problems relevant to the research program will be formulated and conducted by individual students. Papers describing the research project will be prepared. Prerequisites: Psychology 105., permission of instructor.

Full course, Semesters 1, 2, Modular Term. Mr. Wapner.

230. THE PHYSIOLOGY OF BEHAVIOR.

A survey of current problems of physiological psychology including theories of brain function. Emphasis will be placed on the underlying physiological mechanisms which mediate human behavior, i.e., motivation, emotion, learning, perception, and memory. The course is constructed on a systems approach, designed to demonstrate the complex and interdependent relationship of the body and brain to behavior.

Full course, Semester 2.

Mr. Stein.

231. COGNITIVE DEVELOPMENT. Not offered, 1976-77.

The course critically surveys empirical findings and selected theoretical viewpoints (especially Piaget's) in the areas of perceptual development, development of scientific concepts, of logic, and of language. The relations between cognitive development and, respectively, language and culture, are examined and discussed in connection with the theories surveyed. Active participation from students is encouraged. Prerequisite: permission of instructor.

Ms. Falmagne.

232. COGNITIVE PSYCHOLOGY.

An introduction to the human information processing approach, and a comparison with other approaches to the study of psychological phenomena. There will be an examination of work in visual and auditory cognition from the information processing viewpoint; this will include a consideration of issues in attention, memory, and language. Recent findings in the field of problem-solving will also be discussed. Students will be required to do at least one project, either a theoretical paper or a literature review. Prerequisite: permission of instructor. Enrollment is limited to 20 students.

Full course, Semester 2.

Mr. Schmuller.

240. DEVELOPMENTAL APPROACHES TO BEHAVIOR.

A critical examination of presuppositions, methods, concepts,

and empirical inquiries of those concerned with the development of behavioral systems. Implications of developmental conceptualization for all of the life sciences will be discussed. Psychological theories of Freud, Piaget, and Werner will be given special emphasis. Prerequisite: permission of instructor. Full course, Semesters 1, 2. Mr. Kaplan.

241. SEMINAR IN INDIVIDUAL DIFFERENCES IN COGNITIVE FUNCTIONING. Not offered, 1976-77.

An examination of the evidence for and explanation of individual differences in cognitive functioning and personality. Particular attention is given to the role of socio-cultural factors in cognitive functioning. Prerequisite: permission of instructor.

242. PSYCHOLOGY OF LANGUAGE.

A social-psychological and anthropological analysis of the various functions of language will deal with language in everyday life, in poetry, in dreams in social movements, etc. Also considered will be various philosophical views of language and the relations between language and thought. Prerequisite: permission of instructor. Limited enrollment.

Full course, Semester 2. Mr. Kaplan.

245. CONCEPTS IN LEARNING THEORY.

Some persistent problems in the field of learning are examined. Examples of such problems are the question of the universality of laws of learning, differentiating between non-associate (motivational), and associative factors and species differences. Psychology 130. provides desirable preparation for this course. Full course, Modular Term. Mr. Stevens.

246. PRINCIPLES OF BEHAVIORAL EVOLUTION.

Not offered, 1976-77.

From a broad survey of the social systems of animals, this course will attempt to distill the general principles that have directed the evolution of animal behavior. (See also Biology 183.)

Mr. Thompson.

247. SOCIAL DEVELOPMENT FROM INFANCY THROUGH ADOLESCENCE.

An examination of theories and research dealing with the process of socialization in the first two decades of life. Topics to be emphasized include: attachment, imitation, role taking, and the development of social identity.

Full course, Semester 2. Mr. Damon.

248. CONCEPTS IN THEORIES OF PERSONALITY — NORMAL AND ABNORMAL.

Consideration and a critical analysis of: (1) concepts and issues in theories of personality, and (2) concepts used to account for deviant behavior. Prerequisites: Psychology 172., 173. Full course, Semester 2. Mr. Wiener.

249. PSYCHOLOGY OF DEATH.

Beliefs and actions regarding death in diverse social contexts and cultures. Permission of the instructor required.

Full course, Semester 1. Mr. Bibace.

250. COMMUNICATION: VERBAL AND NONVERBAL.

(1) An analysis of the term communication and (2) a study of the varieties of communication patterns for different populations. Full course, Semester 1. Mr. Wiener.

251. CURRENT CONCEPTS IN MENTAL HEALTH: THEORY AND PRACTICUM.

Students will participate in mental hospitals, mental retardation centers, or other agencies. This practicum experience will be integrated through the use of theoretical concepts articulated in

the academic prerequisites to this course. A diary of the practicum experiences and a paper will be required. Prerequisites: Psychology 101., 173., permission of instructor. Full course, Modular Term.

253. SEMINAR IN REHABILITATION.

Psychological problems in everyday life situations, such as problems of the physically disabled, mentally retarded, the aged, the poor, etc. will serve as topics. The primary focus is on interpersonal relations and their importance for environmental changes. Limited to 20 students. Corequisite: Psychology 214. Full course, Semester 1.

Ms. Dembo.

255. PSYCHOLOGY OF MUSIC.

An examination of the physics of musical sound, the structure and function of the auditory system, the history of music with special reference to the evolution of scales, and the development of musical tastes, historically and ontogenetically. Limited to 15 students.

Full course, Semester 2.

Mr. Whiteside.

260. THE HISTORY AND PRESENT STATUS OF INSTINCT.

Not offered, 1976-77.

It has long been argued and long contested that man and animal alike are guided in their social behavior by innate tendencies. This offering will emphasize the devious and irrational course of progress in a scientific field of study so loaded with social and philosophical implications. Prerequisite: permission of instructor. (See also Biology 280.)

Mr. Thompson.

261. HUMAN NEUROPSYCHOLOGY.

Beginning with the neurological basis of behavior and neurobehavioral abnormalities, the field of cortical function is surveyed from the clinical, theoretical, and experimental viewpoints. Topics covered include aphasia, cerebral dominance, memory and its disorders, organic disorders of perception and emotions; methods used in clinical and experimental study.

Full course, Semesters 1, 2. Ms. Kaplan, Ms. Oscar-Berman, Mr. Benson, Mr. Butters, Mr. Cermak, Mr. Goodglass, Mr. Howes, Mr. Rosen, Mr. Zurif.

262. INFORMATION PROCESSING — MEMORY AND PERCEPTION. Not offered, 1976-77.

Models of normal information processing and their application to neurologically impaired perceptual and mnemonic processes will be reviewed. An attempt will be made to show how different neurological disorders represent failures at distinctive stages of information processing. Clinical materials related to visual object agnosia, constructional apraxia, and various amnesic states will be presented and discussed in detail. Emphasis will be placed upon a critical examination of the theoretical and experimental investigations of Luria, Teuber, Talland, and Milner.

Ms. Oscar-Berman, Mr. Butters, Mr. Cermak.

263. CLINICAL SEMINAR — LANGUAGE DISORDERS. Not offered, 1976-77.

A patient with aphasia will be studied in depth each week on the basis of neurological and behavioral background data and testing to be assigned in rotation to each qualified member of the class with supervision by the instructor. Class session will include interview with patient and integrated interpretation of data from all sources.

Mr. Goodglass, Ms. Kaplan.

264. CLINICAL SEMINAR — NON-LANGUAGE DISORDERS. Not offered, 1976-77.

A patient with neurobehavioral disorders other than aphasia will

be studied in depth each week on the basis of neurological and behavioral background data, plus testing to be assigned in rotation to each qualified member of the class with supervision by the instructor. Cases studied will include disorders of memory, perception, visuo-spatial ability, body image. Class session will include interview with patient and integrated interpretation of data from all sources. Limited to 12 students. Prerequisite: permission of instructors.

Mr. Goodglass, Ms. Kaplan.

265. INFORMATION PROCESSING — NEUROLINGUISTICS.

The phenomena of aphasia, alexia, and associated disorders of language will be considered in relation to theories of the storage and processing of verbal information. Relevant models dealing with phonology, word selection, syntax, and semantics will be discussed. Attention will be given to the special problems of using psychological theories based on experimental data from normal subjects to account for findings with brain-damaged

Full course, Semester 1.

Mr. Howes, Mr. Zurif.

266. CEREBRAL DOMINANCE SEMINAR.

The distinctive roles of the left and right hemispheres in man will be reviewed, first by examining alterations in language and nonverbal behavior under conditions of unilateral brain damage and section of the corpus collosum. A second approach will involve the examination of techniques used to investigate hemispherical functional asymmetry in the normally intact brain. Special attention will be devoted to hemispheric asymmetry in relation to different levels of language processing. Mr. Goodglass, Mr. Zurif. Full course, Semester 2.

268. PSYCHOLINGUISTICS. Not offered, 1976-77.

The course is intended for graduate students and advanced undergraduates with a solid formal background. The first part of the course will consist in a systematic introduction to linguistics (generative transformational grammar, semantics). The second part will be a survey of selected empirical work in psycholinguistics, aimed at providing familiarity with the literature, issues, and bibliographical sources, and at identifying and formulating new or continuing empirical questions. The course will be conducted as a workshop, in which the sequence of readings and topics will ensure a systematic progression through the material and each student will have primary responsibility for the formal presentation of part of the material on one session. A supplementary reading list will be provided at the end of the course; the aim of the course is to enable students to continue reading on their own in the area after this introductory background. Prerequisite: permission of instructor. Limited to 10 students.

Ms. Falmagne.

270. SEMINAR—ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.

Intensive treatment of selected areas in social psychological research and theory, including consistency theories in attitude formation and in interpersonal perception; attribution theory in self-perception; social/situational determinants of normal, everyday behavior and of anti-social behaviors such as violence. criminality, and riots. Ordinarily limited to senior majors in psychology or sociology. Prerequisite: permission of instructor. Full course, Semester 2. Mr. Laird.

276. SYMBOLISM IN EVERYDAY LIFE: LANGUAGE, DREAMS, MYTHS, LITERATURE AND SCIENCE.

A critical examination of various theories of symbol-formation with special emphasis on the origins, structure, and functions of dreams and myths. The relation of dream formation to psychopathology and the recent work on the physiological bases of dreaming will also be discussed. Prerequisite: permission of instructor. Mr. Kaplan.

Full course, Semester 2.

279. COMPUTER APPLICATIONS IN PSYCHOLOGY.

Most computer courses deal with the computer's ability to analyze large quantities of data. This course will stress the use of computers in on-line applications such as acquiring data and running experiments. Students will learn the machine and assembly languages used by the department's PDP-12 laboratory computer. The major course responsibility will involve writing a substantial program that would make possible the completion of a research project (in the student's area of interest) that would be difficult or impossible to undertake without the use of a computer. No previous background in computer languages is assumed. The course is not recommended for those who have taken Computer Science 140. Prerequisite: Psychology 105. Full course, Modular Term. Mr. Whiteside.

280. CURRENT PROBLEMS IN CHILD PSYCHOLOGY.

Not offered, 1976-77.

Specific aspects of child behavior will be studied through analysis of the current research literature in the field. Familiarization with current concerns of the field, the historical roots of these concerns, as well as with various literature sources will be the aim of the seminar. Prerequisite: permission of instructor.

Ms. Uzgiris.

285. FUNCTIONS OF THE DIFFERENT EMOTIONS.

Not offered, 1976-77.

Following the rules of "Conceptual Confrontation" we will attempt to explicate a different function for each emotion in a way that systematically relates the emotions named in the English language. Prerequisite: permission of instructor. Mr. deRivera.

286. SEMINAR IN INTERPERSONAL RELATIONS.

Value problems pertaining to interpersonal relations will be discussed, including value possessions, value losses, regaining of values, and adjustment to value losses. Limited to 20 students. Corequisite: Psychology 213. Full course, Semester 2. Ms. Dembo.

288. LOGICAL REASONING IN ADULTS AND CHILDREN.

The course will cover in depth the current empirical findings and theoretical developments in the areas of propositional reasoning, syllogistic reasoning, and transitive inference in children and adults. Issues related to the notions of mode of representation and of logical competence will be given particular attention, and connections with the adjacent area of psycholinguistics will be discussed. The research and models concerning reasoning in children and reasoning in adults respectively, will be presented from a common perspective, and the contrasts and connections with the Piagetian perspective will be indicated. Prerequisites: Psychology 231. or 268., permission of instructor. Ms. Falmagne. Semester 2.

296. DIRECTED RESEARCH IN PSYCHOLOGY.

Independent study for qualified students not in the honors program. Prerequisite: permission of department chairperson. Variable credit, Semesters 1, 2, Modular Term. Staff.

297. DIRECTED READINGS IN PSYCHOLOGY.

Independent study for qualified students not in the honors program. Prerequisite: permission of department chairperson. Variable credit, Semesters 1, 2, Modular Term. Staff.

299. HONORS IN PSYCHOLOGY: SENIOR YEAR.

Students will carry out a research project under the direction of a member of the staff.

Variable credit, Semesters 1, 2, Modular Term. Staff.

300. PRO-SEMINAR — DEVELOPMENTAL PSYCHOLOGY.

A seminar devoted to the presentation and critique of different developmental approaches to the individual and his/her ways of functioning in the world. Among the approaches considered are: (1) organismic-developmental; (2) Piagetian; (3) Soviet approaches to psychology and (4) Freudian and neo-Freudian. The aim of the seminar is to acquaint the participants with sympathetic expositions of diverse points of view and the application of these viewpoints to empirical inquiry. It will thus provide a basis for subsequent discussions in other seminars of the various ways of dealing with substantive issues (e.g., learning, moral action and moral judgment, language behavior, the processes of thinking). Several faculty members and advanced graduate students will participate in conducting the seminar, each half-semester of which will be devoted to the examination of one theoretical approach.

Variable credit, Full course, Semesters 1, 2.

Mr. Kaplan, Mr. Bibace, Mr. Cirillo, Mr. Damon, Ms. Falmagne, Ms. Uzgiris, Mr. Wapner, Mr. Whiteside.

301. PROBLEM, THEORY AND METHOD IN PSYCHOLOGY.

During the first half of semester one, the faculty will present their own research with an emphasis on the special features of methodology they employ, including the links between method, theory, problems, and findings. During the second half of semester one, and semester two, there will be informal ad hoc individual or group meetings in which students will present proposals for their M.A. theses. At the end of the second semester, students will submit written reports which cover the status of the students' research.

Variable credit, Semesters 1, 2.

Mr. Wapner.

302. STATISTICAL METHODS.

Descriptive statistics, statistical inference, and experimental design in psychology.

Variable credit, Semesters 1, 2.

Mr. Schmuller.

303. BASIC PSYCHOLOGICAL PROCESSES IN PSYCHOPHYSICS, PERCEPTION, LEARNING AND MEMORY. Not offered, 1976-77.

An introduction to psychophysics, sensory processes, theories of perception, and theories of learning (semester one); memory, language, information processing, higher mental processes, including the biological bases thereof (semester two). This seminar is designed to give students basic concepts in classical and contemporary psychology. Several faculty members will conduct the class.

304. FORMAL MODELS FOR PSYCHOLOGY.

Introduction to formal methods and models applicable to psychological theorizing. The aim of the course is to familiarize students with methods and formal ways of thinking, that are of wide applicability across content areas, to indicate how various theoretical or empirical questions can be formalized in those terms, and to equip students with the sources and further readings that will enable them to pursue those topics further on their own. The topics covered in the first segment of the course will include sets and relations, groups, lattices, fuzzy sets, formal grammars and automata, and Markov chains. Illustrative applications of those methods to various content areas will be presented and worked out. The second segment of the course

will deal with psychological measurement. Topics to be discussed include foundations of psychological measurement, Thurstonian scaling, factor analysis, and current multidimensional scaling techniques. Students will use each of these measurement models to analyze sample data.

Full course, Semesters 1, 2. Ms. Falmagne, Mr. Schmuller.

305. BASIC PSYCHOLOGICAL PROCESSES IN SOCIAL-PERSONALITY. Not offered, 1976-77.

An examination of important processes in social-personality psychology. Topics include processes in motivation, attribution and evaluation, group formation and development, in the interactions between individual dynamics and cultural institutions.

Mr. deRivera, Mr. Laird, others.

308. RESEARCH PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY.

An advanced course in research methodology including surgical and stereotaxic techniques, histology, EEG recording and analysis, and general methods for animal care. Prerequisite: permission of instructor.

Mr. Stein.

311(a). CLINICAL METHODS I.

Introduction to psychometric and projective assessment.

Variable credit, Semester 1.

Ms. Kellett, Mr. Vogel.

311(b). CLINICAL METHODS I.

Clinical interpretation of representational behavior in projective tests and interviews from a cognitive and developmental viewpoint.

First half, Semester 2.

Mr. Cirillo.

311(c). CLINICAL METHODS I.

Clinical seminar in neuropsychological assessment. Second half, Semester 2, Modular Term. Ms. Kaplan, Mr. Goodglass.

312. PSYCHOPATHOLOGY.

Introduction to psychopathology: directly through naturalistic observation and interviews with seriously disturbed individuals; indirectly through clinical and experimental reports related to description and explanation of psychopathology. A paper on some specific psychopathological phenomenon (e.g., delusions, hallucinations) will be required.

Variable credit, Semester 2.

Mr. Bibace.

314. TOPICS IN PERCEPTION.

Selected issues in sensory processes, perception, perceptual development, and theories of perception will be considered. Special attention will be given to findings and perspectives that relate to more than one sense modality.

Full course, Semester 1.

Mr. Whiteside.

315. ADVANCED CHILD PSYCHOLOGY.

Not offered, 1976-77.

Discussion of conceptions and current research pertaining to some questions in the general area of human development in the early childhood years, such as imitation-identification, exploration and play, temporal organization of actions, etc.

Variable credit.

Ms. Uzgiris.

317. BEHAVIOR IN INFANCY.

The seminar will proceed from an examination of the capacities for functioning in the neonate to a consideration of the changes in those capacities during ontogenesis with a view toward understanding the infant's organization of its functioning in the world.

Semester 1.

Ms. Uzgiris.

319. ADVANCED SEMINAR ON ORGANISMIC-DEVELOPMENTAL APPROACHES TO BEHAVIOR.

Not offered, 1976-77., Offered 1977-78.

Basic categories of the organismic-developmental approach to life sciences, with examination of the application of these categories to a wide range of problems areas in psychology. Mr. Kaplan. Variable credit.

320. ADVANCED SEMINAR IN GENETIC-STRUCTURAL THEORIES Not offered, 1976-77, Offered 1977-78.

In this seminar, the major categories of all genetic-structural developmental theories (Freud, Werner, Piaget, et al) and the concepts and methodologies specific to different theories will be thoroughly examined and critically analyzed. This is an ongoing seminar comprised of advanced graduate students and including interested faculty. The seminar deals with the systematic roles of such concepts as "development", "structure", "regression", "system", "stage", etc.

Mr. Kaplan.

322. PSYCHOLOGY OF LEARNING.

Theoretical viewpoints and experiments in the field of learning. Variable credit, Semester 2. Mr. Stevens.

324. THEORIES OF PERSONALITY I: ISSUES IN THE PHILOSOPHY OF PSYCHOLOGY.

This course covers three areas: (1) discussion of the philosophical bases of "theories" of personality; (2) consideration of some of these issues in different theories (e.g., Freud, Kelly, Dollard, and Miller); and (3) presentation and discussion of an alternative framework. Variable credit, Semester 1. Mr. Wiener.

325. THEORIES OF PERSONALITY II: EXPLORATION OF **EXEMPLAR THEORIES OF PERSONALITY.**

Not offered, 1976-77.

Mr. Wiener.

327. MORAL DEVELOPMENT. Not offered, 1976-77.

Classical and contemporary approaches to the development of moral judgment and conduct in the individual. Emphasis will be on new and future directions for research in this area. Mr. Damon.

329. INTRODUCTION TO INTERVIEWING.

Variable credit.

First half, Semester 1. Mr. Bibace.

330. GRADUATE SEMINAR ON TEACHING OF GENERAL PSYCHOLOGY.

Graduate students who will participate as teaching assistants in general psychology, will work on the formulation of all features of the course including assignments, responsibilities for lectures, readings, demonstrations, etc. Mr. Laird, Mr. Stevens, Mr. Wapner. Modular Term.

331. CLINICAL METHODS II.

Practicum devoted to clinical experiences primarily with children. This includes intelligence and projective testing; diagnostic interviewing, and play therapy with children. Students are supervised by Dr. Ciottone and other members of the Providence Child Guidance Clinic staff. Supervision either through graduate students or through direct observations and tape recordings. On alternate weeks, there is an evening meeting with Dr. Ciottone devoted to conceptualizing questions raised through the clinical activities. Students currently spend one day per week at the Child Guidance Center. Variable credit, Semesters 1, 2.

Mr. Ciottone.

332. THEORIES OF PSYCHOTHERAPY.

Comparison of various theoretical approaches to psychotherapy. Variable credit, Semester 2. Mr. Wiener.

334. SEMINAR IN BEHAVIOR AND EVOLUTION.

Not offered, 1976-77.

A consideration of selected contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. (See also Biology 334.) Variable credit. Mr. Thompson.

337. SEMINAR ON REASONING. Not offered, 1976-77.

The central theme is an examination of the notion of logical competence and its alternatives, both from a definitional point of view and in connection with the experimental data on reasoning. Starting from a review of the current literature on reasoning, the seminar will then explore the reciprocal relationships between logic and imagery, and logic and language. Various conceptions of logical competence will be discussed and related to the analogous issues in the psycholinguistics field.

Ms. Falmagne.

338. CONCEPTIONS OF PERSON.

Examination of research and theory in the areas of self concept and of person perception with a focus relationship between the

Semester 1.

Mr. Laird.

339. SEMINAR ON THE EFFECTS OF EARLY EXPERIENCE.

An examination of recent evidence pertaining to the effects of various circumstances during early ontogenesis on the course of cognitive and motivation development aimed at conceptualizing these effects within a coherent framework.

Semester 1. Ms. Uzgiris.

340. PHENOMENOLOGY OF INTERPERSONAL RELATIONS. Not offered, 1976-77.

Interpersonal phenomena will be systematically examined with the methodology of "conceptual confrontation."

Mr. deRivera.

342. CHEMICAL COMMUNICATION.

A seminar dealing with the role of pheromones in mammalian behavior.

Variable credit, Semester 2.

Mr. Stevens.

351(a). CLINICAL METHODS III.

Cognitive approaches to children with learning disabilities. Variable credit, Semesters 1, 2. Ms. Walsh, Mr. Hurwitz.

351(b). CLINICAL METHODS III.

Practica in consultation. Currently, graduate students can enroll in one or more of three practica devoted to consultation: consultation with nursing clinicians and team leaders at Hahnemann Hospital; consultation with residents in family medicine; and consultation with public school teachers of children coming to Clark for their learning disabilities. Semesters 1, 2, Mr. Bibace.

352. CLINICAL METHODS IV.

Supervised experience in diagnostic interviewing in the Psychological Services Center. Variable credit, Semesters 1, 2. Mr. Baker, Mr. Cirillo.

353. THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION.

Variable credit, Semesters 1, 2.

Mr. Peterson.

357. SYMBOLIC BEHAVIOR.

A seminar focusing on the problem of representation of symbolization, with special attention to the representation of abstract or "intangible" conceptions (meanings) in concrete objects, events, patterns, etc. The seminar will concern itself with the developmental process by which individuals represent meanings in dreams, political cartoons, spatial arrangements, material structures, and finally linguistic forms. Emphasis throughout will be on research into symbolic representation. Semesters 1, 2.

Mr. Kaplan.

360. SEMINAR: CURRENT APPROACH TO THINKING I. Not offered, 1976-77.

The seminar is aimed at providing an introduction to a number of contemporary, increasingly influential approaches to thinking, in particular: (1) computer simulation of problem-solving, memory, language comprehension; (2) recent Soviet work on thought and inner speech; (3) psychological and linguistic approaches to reasoning and semantics. The format will be study, presentation and discussion of selected significant writings in these areas. An additional "directed readings" arrangement could also be worked out optionally.

Variable credit.

Ms. Falmagne.

380. RESEARCH IN PSYCHOLOGY.

Direction of individual students in their research. Variable credit, Semesters 1, 2. Staff.

381. READINGS IN PSYCHOLOGY.

Critical analysis of literature in areas related to individual research.

Variable credit, Semesters 1, 2. Staff.

382. CONSULTATION IN FAMILY PRACTICE.

Concepts, assumptions and practicum in consulting with family practitioners.

Semesters 1, 2. Mr. Brown, Mr. Catlin, Ms. Cotsonas, Mr. Frey, Mr. Walton.

385. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER I.

Semesters 1, 2. Mr. Baker, Clinical Staff: Mr. Bibace, Mr. Cirillo, Mr. Wiener.

386. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER II.

Semesters 1, 2. Mr. Baker, Clinical Staff:
Mr. Bibace, Mr. Cirillo, Mr. Wiener.

387. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER III.

Semesters 1, 2. Mr. Baker, Clinical Staff:
Mr. Bibace, Mr. Cirillo, Mr. Wiener.

388. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER IV.

Semesters 1, 2. Mr. Baker, Clinical Staff:
Mr. Bibace, Mr. Cirillo, Mr. Wiener.

389. INTERNSHIP IN PSYCHOLOGY.

Variable credit, Semesters 1, 2. Staff.

Russian

(See Department of Foreign Languages and Literatures.)

Science, Technology and Society

PROGRAM COMMITTEE

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UNDERGRADUATE PROGRAM

Science, Technology and Society (STS) is a program of interdisciplinary study with emphasis on the assessment of science and technology in a social and political context. The goal of the program is to train individuals who are able to deal with policy questions on the use and misuse of science and technology, and who do so with the short and long range limitations of the natural environment in mind.

Although science and social science are both important to the goals of the program, major requirements in the program do not give equal weight to both, but emphasize achieving literacy in science. At the same time, majors in other fields who find STS courses useful are most welcome, and often constitute the majority of students enrolled in a given course.

The reason for the emphasis on science training for those who major in Science, Technology and Society is twofold: (1) many significant problems are accessible only with a thorough grounding in science; (2) in the nation's future, there is a significant need for managers of technology whose experience with science and technology is more than perfunctory.

A major in STS should be of interest to students with significant talent for science whose goal is to understand the important issues at the complex interface between science and society. Some graduates of the program may define themselves in terms of the rapidly emerging new field of technology assessment. Others may enter broadly defined graduate areas such as resource management, geography, oceanography, or environmental science. The program should also be of interest to pre-medical and pre-law students, in particular those interested in environmental law, potential school teachers, community service workers, government regulatory officials, and science writers.

The requirements for the major in Science, Technology and Society are as follows —

- 1) Ten semesters of basic natural science, with at least six semesters in a single discipline. For the present purpose, the natural sciences shall include physics, chemistry, biology, and mathematics.
- 2) Four semesters of courses in social science selected with advice of the Program Committee to fulfill the goals of the student in keeping with the program.
 - 3) Three semesters of problem-oriented courses on specific

issues from the listing below. In general, the problem-oriented courses will be offered under the specific auspices of the Program Committee, will provide a distinctly multidisciplinary approach, will have a significant, if not predominant, science input, and will in most cases be offered jointly by two or more faculty.

The choice of specific courses to meet the science and social science requirements will be made with approval of the Program Committee. Students should present their plans of study in the form of a written proposal to the chairman of the Program Committee after discussions with individual members of the committee, particularly those who are affiliated with departments in which students wish to specialize.

Students wishing to examine sample programs with emphasis in each of several disciplines of science should request the brochure on that subject from the chairman of the

Program Committee.

Students who intend to do graduate work are encouraged to investigate the minimum major requirements of the basic scientific discipline in which they plan to concentrate, and may wish to fulfill these requirements along with the requirements of

the program.

Students who wish to receive honors in Science,
Technology and Society must pass a comprehensive
examination in their senior year at the B+ level, and must
present an acceptable undergraduate thesis. The comprehensive
examination will cover: (1) basic science in a discipline of the
candidate's choice; (2) basic social science in the discipline of
the candidate's choice and (3) a major problem of Science,
Technology and Society of the candidate's choice.

The following courses satisfy the requirements of problemoriented courses. The courses have no specific prerequisites

except as indicated.

COURSES

101. INTRODUCTORY CASE STUDIES.

A joint introductory course to the Program on Science, Technology and Society and the Program on Environmental Affairs. The course will introduce students to a holistic approach to problem solving in environmental affairs and technology assessment. For semester one, cases will include (a) population, food, and development; (b) power plant siting; and (c) water resource planning. For semester two, case studies will include (a) solar vs. nuclear energy; (b) environmental impact assessment, and (c) heavy metals in the environment. Full course, Semester 1. Mr. Hohenemser, Mr. Schwartz, Mr. Ducsik.

Full course Semester 2. Mr. Hohenemser, Mr. Ducsik, Mr. Jones.

132. ALTERNATIVE ENERGY SYSTEMS LABORATORY.

Students will learn through lectures and laboratory experience about the physics and engineering of solar devices, such as collectors, solar cells, solar ovens, windmills. Co-requisite: Physics 11. or 12. Limited to six students.

Full course, Semester 1.

Mr. Gottlieb.

142. ENVIRONMENTAL CHEMISTRY.

A study of the chemistry of the problems of the environment. Topics covered are chemistry of air and water pollution and possible solutions. Topics of interest include pollution from fossil fuels, oil pollution, pesticides, metal contamination, food additives, solid wastes. The laboratory primarily will make use of analytical techniques. Prerequisites: Chemistry 130. or 132. Three lectures and one laboratory per week.

Full course, Semester 1.

Mr. Jones.

150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

See Geography 150. for course description.
Full course, Semester 2. Staff.

201. ENERGY AND SOCIETY.

Examination of the role of energy in industrialized society, and the factors affecting future demand and supply, including resource availability. Discussion of the nature of the activities comprising both fossil and nuclear fuel cycles, including extraction, transport, processing, conversion, distribution, "final" consumption, and related processes. Special attention will be given to potential impacts on natural and social environments, using electric power generation as a frame of reference. Critical evaluation of present governmental arrangements for dealing with the power supply/environment conflict.

Full course, Semester 2.

Mr. Ducsik.

222. SEMINAR IN THE DYNAMICS OF CLIMATE AND SOCIETY.

A research seminar modeling long-term interaction between climate and human activity. The simulation will employ system dynamics methods on the five-thousand-year history of the Tigris-Euphrates valley. For advanced students with an interest in cultural ecology and/or environmental modeling. Prerequisite: permission of the instructor. (See also Geography 222)

Full course, Semester 1.

Mr. Gould, Mr. Johnson, Mr. Kates, Mr. Steinitz.

235. COASTAL ZONE MANAGEMENT SEMINAR.

Introduction to the problem of achieving beneficial use and protection of the land/water resources comprising the coastal environment, with emphasis on the water's edge. Discussion of a broad range of topics relevant to the land-sea interface, including physical and ecological processes; the scope and extent of human activities; and incidence of adverse effects on ecological, economic, and amenity values. The legal aspects of land-use regulation as applied to coastal areas will be explored, together with recent developments in state and federal legislation and administrative programs. (See also Geography

Full course, Semester 1.

Mr. Ducsik, invited guests.

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

See Biology 239. for course description.
Full course, Semester 2. Mr. Reynolds.

240. SOLAR ENERGY AND THERMAL PROCESSES.

A mathematical approach to the understanding of the technical and economic aspects of solar energy use and related thermal processes. The course will include computer simulation of solar thermal systems. A knowledge of mathematics through elementary differential equations will be assumed.

Full course, Semester 2. Mr. Davies.

270. SPECIAL TOPICS IN SCIENCE, TECHNOLOGY AND SOCIETY.

Independent readings and/or experimental work.
Variable credit.
Semesters 1, 2. Staff.

271. HONORS IN SCIENCE, TECHNOLOGY AND SOCIETY.

Supervised research leading to an undergraduate thesis. Variable credit.

Semesters 1, 2.

Staff.

272. SPECIAL PROBLEMS IN ALTERNATIVE ENERGY RESOURCES.

A project-oriented seminar tied to on-going faculty research. For semester one, the seminar will deal with the problem of decentralized power generation in Massachusetts, using the Clark University system as a case in point.

Full course.

Mr. Gobel, Mr. Davies.

278. SEMINAR ON NUCLEAR POWER.

Major issues surrounding the implementation of nuclear electric power. On the technical side the focus will be on salient aspects of nuclear technology, risk assessment, the prospects for the breeder, and the special economic problems of capital intensive, long-term investments. On the societal side, the focus will be on problems of nuclear power regulation, safety policies, accident liability, siting policy, and assessments of public attitudes. (See also Government 278.)

Full course, Semester 2. Mr. Hohenemser, Mr. Kasperson.

Sociology

DEPARTMENT FACULTY

Robert J. S. Ross, Ph.D., Assistant Professor of Sociology, Chrm.

Edward E. Sampson, Ph.D., Professor of Sociology, Adjunct Professor of Psychology

Stanford N. Gerber, Ph.D., Associate Professor of Social Anthropology and Sociology

Sidney M. Peck, Ph.D., Associate Professor of Sociology Karen Sacks, Ph.D., Assistant Professor of Sociology Elizabeth Stanko, Ph.D., Assistant Professor of Sociology

UNDERGRADUATE PROGRAM

The Sociology major consists of nine courses within sociology and, usually, five additional courses in other departments selected from a set of focused options; the selection will be developed through close consultation with a major adviser. The nine sociology courses are to be divided as follows:

I) At least one introductory course chosen from:

Introduction to Sociology

Introduction to Social Psychology

Introduction to Social Anthropology

II) At least one advanced theory course chosen from:

Sociological Theory: Classical

Sociological Theory: Contemporary

Anthropological Theory

Social Psychological Theory: Small Group and

Interpersonal Processes

Topics in Sociological Theory

III) At least one methods course chosen from:

Sociological Research Methods

Field Methods

(From time to time, other methods courses will be offered and may be substituted for the above listing; courses selected from the methods offerings in other departments may, with the consent of the student's adviser, be substituted for a methods course within sociology; the student can meet the methods requirement, but not the course requirement [i.e. nine courses in Sociology] by this option.)

IV) At least two courses chosen from the following:

Ethnology: Caribbean Political Sociology

Race and Ethnic Relations

Urban Sociology

Social Stratification

Deviance

Social Psychology Theory: Small Group and Interpersonal

Processes

Industrial Sociology

Social Movements

Sociology of Sex Roles

(From time to time, other courses will be offered and may be substituted for the above listing)

V) In their senior year, or in selected cases, before that, and in close consultation with their adviser, majors will select one of the following options:

Option A: Thesis: This is the equivalent of four full courses in sociology; it is designed for selected students who wish to devote approximately 50 per cent of their senior year to a major research problem.

Option B: Internship: This is the equivalent of from two to four full courses; it is designed for selected students who seek supervised field training in community or

organizational settings.

Option C: Senior Seminar: This is the equivalent of two full courses and consists of a year-long seminar devoted to an examination of major themes and issues in Sociology. (Not offered, 1976-77)

Option D: Course Work: For those students who do not choose any of the other options, an additional four sociology courses are required; these may Include core courses, directed readings, and special projects.

VI) Related Courses

In close consultation with their adviser, students will plan a program of additional courses which center on a coherent intellectual focus which complements the substantive knowledge of and conceptual skills of the department curriculum. Such foci will most usually consist of courses taken in another social science department, but they may be interdepartmental, e.g. "urban focus" could include courses in government, geography, history, and/or economics.

The general expectation of the department is that such related course work will comprise five (5) courses. This expectation may be higher for those who choose foci which entail taking elementary courses in preparation or as prerequisites. Thus, someone with an area study interest in Latin American culture would need elementary language courses in addition to five courses in culture, history, and politics.

GRADUATE PROGRAM

At the present time, the department is not accepting students for the Master of Arts degree.

COURSES

100. INTRODUCTION TO SOCIOLOGY.

This is a general introductory course to the discipline of sociology, intended mainly for students who wish to gain a broad, general overview of the field, its areas of study, methods of inquiry, and conceptions and analyses of society. The central objective of the course is to encourage students to think and feel sociologically.

Full course, Semesters 1, 2.

Mr. Peck.

105. INTRODUCTION TO SOCIAL PSYCHOLOGY.

An examination of the relationship between the individual and the social system. The theories, methods, and findings of social psychology will be examined as they illuminate the major, enduring themes that confront human beings individually and collectively: e.g., the bases of knowledge and understanding; the individual and authority; freedom, reason, and responsibility; development, identity and individuality; exchange and justice, etc.

Full course, Semesters 1, 2.

Mr. Sampson.

110. INTRODUCTION TO FEMALE STUDIES.

An overview of the problems, issues, and research on sex role dichotomization and the bio-social systems which produce and maintain them. While particular emphasis will focus on material from sociology and other relevant social sciences, topics from

the humanities and the biological sciences will also be considered.

Full course, Semester 1.

Ms. Sacks.

120. INTRODUCTION TO SOCIAL ANTHROPOLOGY.

An analysis of primitive society with a focus on social structure. The emphasis will be upon the development of a comparative perspective. The latter part of the course will explore phenomenological and existential anthropology and its implications for understanding other cultures.

Full course, Semester 1.

Mr. Gerber.

170. SOCIOLOGICAL RESEARCH METHODS.

This course will provide a general introductory survey of various methods employed in social scientific inquiry including, for example, the sample survey, interviewing, questionnaire approaches, experimental methods, etc. The course will examine general issues involved in research design and research evaluation as well as issues involved in selecting methods to suit particular research problems and questions.

Full course, Semester 1.

Ms. Stanko.

200. DIRECTED READINGS IN SOCIOLOGY.

Variable credit, Semesters 1, 2.

Staff.

201. SPECIAL PROJECTS IN SOCIOLOGY.

Variable credit, Semesters 1, 2.

Staff.

202. WORCESTER COMMUNITY STUDY.

The Worcester Community Study is a research seminar oriented to descriptive evaluation and action research on any facet of the social structure of the Worcester community. Students who wish to add a research dimension to their special projects, internships, and practicums are encouraged to participate in this seminar. Participants in the seminar will be expected to help coordinate small research teams engaged in a long-term study of the Worcester community.

Full course, Semester 1.

Mr. Peck.

205b. WORKSHOP IN SMALL GROUP AND INTERPERSONAL PROCESSES: ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.

This is an intensive, unstructured small-group experience designed for students who have completed or are concurrently taking the small-group theory course (291b.) and who now wish to enrich their intellectual knowledge by a direct self-analytic group experience. The class will be organized into an unstructured group and will spend the term examining the material which is generated by this group. The course is offered on a Credit/No Record basis only.

Full course, Semester 1.

Mr. Sampson.

220a. ETHNOLOGY: CARIBBEAN.

This course will focus upon various problems in the analysis of the Caribbean culture area.

Full course, Semester 2.

Mr. Gerber.

225. SOCIOLOGY OF SEX ROLES.

The focus of the course is on the sex role socialization process. This is considered in relation to social class and caste, cultural variables, institutions, political and psychological effects, and implications.

Full course.

Staff.

226. SOCIOLOGY OF AMERICAN JEWRY.

This course applies several perspectives of sociological analysis to the experience of Jewry in the U.S. Theoretical and empirical materials bearing on these topics and their implication for the future of American Jewry will be discussed. This course may be

useful to students interested in religion, ethnicity, and intergroup relations.

Full course, Semester 1. Mr. Dashevsky.

243. POLITICAL SOCIOLOGY.

Politics may, for certain purposes, be seen as the result of structures of sentiment and power from which particular policies and institutions emerge. This course examines, in theory and research, class and political behavior, the political economy of power, sources of conflict and stability in modern society and social movements.

Full course, Semester 2.

Mr. Ross.

244. RACE AND ETHNIC RELATIONS.

The purpose of this seminar is to enable the participants to begin to develop a theoretical framework for analyzing problems of racism and to conceptualize solutions to the problems consistent with the analysis.

Full course, Semester 2.

Ms. Sacks.

245. SEMINAR IN THEORETICAL MODELS IN SOCIAL ACTION.

A critical evaluation of anthropological, sociological, and literary sources and their application to contemporary social problems.

Full course, Semester 2.

Mr. Gerber.

246. SOCIAL PLANNING AND SOCIAL POLICY.

This seminar will be concerned with the analysis of policy issues related to urban social problems. The seminar will address itself to three major objectives: (1) how social policy is formulated; (2) how social problems are analyzed from the perpective of the policy makers; (3) how social policy addresses problems of social importance in urban society. The students will be introduced to the literature of the field, and will be given opportunities to analyze specific urban social problems. Full course.

Staff.

247. URBAN SOCIOLOGY.

The ethnic and other communities of the big cities will be examined through the literature of historical and community studies; these materials will provide the basis for interpreting urbanism and the politics of the recent period. The political machines, the functions of social policy, and the problems of our big cities are some of the broader issues discussed. Full course, Semester 1.

Mr. Ross.

250. CRIMINOLOGY.

The course constitutes a survey of who the criminal justice system processes, how it does it, and what social science has learned about the social nature of crime.

Full course, Semester 1.

Ms. Stanko.

255. SEMINAR IN THE FAMILY.

Critical, historical, and feminist perspectives on the institutions of marriage and the family. The seminar will consider comparative, historical, and theological analyses of the social role of women vis-a-vis the role relationships inherent in marital institutions.

Full course, Semester 2.

Ms. Sacks.

256. SOCIAL STRATIFICATION. Not offered, 1976-77.

An analysis of the major dimensions of social stratification in contemporary society. Economic class, social status, power, class consciousness, social mobility, and the consequences of class difference.

Full course.

Mr. Peck.

263. DEVIANCE.

This course has two fundamental objectives: (1) to introduce the student to the literature, research, and conceptual problems in

the field of deviance; and (2) to examine conceptual frameworks out of which contemporary definitions of deviance emerge.

Full course, Semester 2.

Ms. Stanko.

264. JUVENILE DELINQUENCY.

This course will center around delinquency and criminal behavior. Its major purpose is to increase students' sensitivity to some of the major factors affecting delinquent behavior and to introduce some of the main theories explaining it.

Full course, Semester 2.

Ms. Stanko.

265. SOCIAL MOVEMENTS. Not offered, 1976-77.

This course will discuss the general characteristics of modern social movements with the New Left and other protests of the sixties as extended case examples. Problems of recruitment, organization, and ideology will be analyzed. The form of the course will depend on the size of registration.

Full course.

Mr. Ross.

270. STUDY OF LIVES.

The focus of this course is upon the study of lives, the unique intersection of personal biography and cultural history that can best be appreciated through the careful and intensive examination of a human life. Students will conduct an in-depth study of two lives: their own, through the development and presentation of their autobiography; and the life of a person they select for study and presentation during the term. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Sampson.

271b. FIELD METHODS: CONCEPTS AND ISSUES IN ANTHROPOLOGY. (Indivisible)

This course will deal with theoretical issues in the conduct of anthropological field work, including an intensive survey of the literature, problems, and prospects. In addition, instruction and use of camera, tape recording equipment, etc. involved in field work will be covered.

Full course, Semester 1.

Mr. Gerber.

271c. FIELD METHODS: PRACTICUM IN ANTHROPOLOGY.

This course will include on-site field experience where students will obtain and conduct a limited field research project.

Prerequisite: 271b., Concepts and Issues in Anthropology.

Full course, Semester 2.

Mr. Gerber.

282. INDUSTRIAL SOCIOLOGY. Not offered, 1976-77.

This course is concerned with the study of social relations in the industrial setting. The course will cover the research tradition beginning with the human relations school and extending through the sociology of work and occupations. A special focus of the course will be on workers' organizations and the sociology of labor.

Full course.

Mr. Peck.

290a. SOCIOLOGICAL THEORY: CLASSICAL.

Beginning with the European writings of the early sixteenth century and extending to the expression of social theory at the turn of the twentieth century, the course focuses on the way in which certain social themes dealing with human relationships were treated in the classic works of outstanding European social philosophers and theoreticians. These social themes refer to issues of value consensus and social conflict, established power and rebellious disorder, the social person and the alienated human. Oriented to a sociology of knowledge perspective, the range of ideas beginning with Machiavelli and More and ending with Weber and Simmel are considered in the context of the history and social structure of national capitalism as it emerged in the specific settings of Italy, England, France, and Germany. Full course, Semester 1.

290b. SOCIOLOGICAL THEORY: CONTEMPORARY.

Social developments in the United States during the post World War II epoch have given rise to a variety of theoretical views in the field of sociology. The diversity of approach and fragmentation of theoretical stance will be related to significant changes in social structure and political economy of the United States during the past three decades. The relationship between social theory and political ideology will be considered throughout.

Full course, Semester 2.

Mr. Peck.

291b. SOCIAL PSYCHOLOGICAL THEORY: SMALL GROUP AND INTERPERSONAL PROCESSES.

This is an intensive course designed to introduce students to some of the major concepts and theories which have been developed to understand small-group and interpersonal processes. The formulations of persons such as Freud, Sullivan, Mead, Bion, exchange theorists, and others will provide the major focus of the course.

Full course, Semester 1.

Mr. Sampson.

293. ANTHROPOLOGICAL THEORY. Not offered, 1976-77.

A critical evaluation and examination of the philosophical bases for anthropological inquiry. Consideration will be given to such areas as the rationale for cross-cultural studies, the effects of Western cognition on the development of anthropology as a discipline, French structuralism, and existential and phenomenological modes of inquiry.

Full course.

Mr. Gerber.

294. INTERNSHIP IN SOCIOLOGY.

Supervised field training in community and organized settings. This is the equivalent of from two to four full courses in sociology.

Variable credit. Semesters 1, 2,

Staff.

297a. TOPICS IN SOCIOLOGICAL THEORY: THE PERSON AND THE SYSTEM.

Everywhere men and women strive for love and personal acceptance, but they receive these only at certain places and times. This course is primarily an analysis of theories or rational efficiency and communal or primary needs in modern society. It compares the orthodox theories of Weber and Parsons with the Marxist paradigm of alienation.

Full course, Semester 2.

Mr. Ross.

297b. TOPICS IN SOCIOLOGICAL THEORY: STUDIES IN MARXISM. Not offered, 1976-77.

This seminar will examine some of the basic themes of Marxism through close study of a major primary source, supplemented with class presentations and secondary reading. The Marxian theoretical and philosophic origins will be explored, and the political economy of Marxism will be introduced.

Full course.

Mr. Ross.

298. SENIOR SEMINAR IN SOCIOLOGY.

Not offered, 1976-77.

This course consists of a year-long seminar devoted to the examination of major themes and issues in sociology. It is the equivalent of two full courses in sociology.

Double course. Staff.

299. THESIS-SEMINAR.

The course combines seminar with independent study on selected topics. The course is intended for senior sociology majors. Each member of the sociology faculty offers a set of topics and thesis issues; students should sign up with the faculty person whose areas of interest are most congruent with their own. Emphasis in the course is upon independent work

undertaken with faculty guidance and supervision. It is possible to take this as a year-long course that results in the submission of a thesis, thereby making selected students eligible to be considered for departmental honors in sociology.

Four full course credit., Semesters 1, 2. Staff.

Geography 171. SOCIAL GEOGRAPHY.

Refer to course description under Geography.

Ms. Buttimer, Ms. Martensson.

Spanish

(See Department of Foreign Languages and Literatures.)

Theatre Art

(See Department of Visual and Performing Arts.)

Visual and Performing Arts

ART

PROGRAM FACULTY

Donald Krueger, M.F.A., Associate Professor of Art, Associate Chairman for Art

Samuel P. Cowardin, III, Ph.D., Associate Professor of Art History

Peter M. Barnett, Ph.D., Assistant Professor of Art History Sante Graziani, M.F.A., Associate Professor of Art (Affiliate)

UNDERGRADUATE PROGRAM

Courses in art provide opportunities for students to develop understanding and sensitivity in the visual arts of the past and present, to acquire resources for visual thinking and communication, and to engage in personal creative expression. In the Program of Advanced Studies, students may major in art history or studio art, or a combination of the two, or they may select art courses as a valuable part of their education in the humanities or social or physical sciences.

The art history major can serve as a meaningful focus for a liberal education or provide a foundation in subject matter and method as preparation for graduate study. It offers opportunity for concentration in areas such as Renaissance or modern art history and permits independent study in areas of special interest. The art history major includes studio work, or a student may elect a combined studio and history major.

Specific requirements for the various art history options are continually reviewed by the faculty. At time of publication of this catalog, admission to the art history major program requires a grade of at least a B in Art 11. (or equivalent courses) and staff

approval. Students must, at present, complete six courses in art history beyond the introductory level, four studio courses, two courses in related areas (film studies, theatre arts, music and aesthetics), and a senior project in art history. The collections and library of the Worcester Art Museum are available to Clark art students. Requirements for the combined art history/studio major may be obtained from the program chairman or staff.

The art history major can, with appropriate courses in studio, theory, and design, serve as preparation for undergraduate or graduate study in architecture.

The studio art major is designed to meet a number of student needs and interests: the satisfaction of personal curiosity about art; significant involvement in the creative process; or preparation for graduate study and a professional career in art, design, education, or therapy.

The majority of courses for the studio major may be taken at the School of the Worcester Art Museum under the direction of its faculty of professional artists. Clark students are selectively admitted to study at the school by portfolio evaluation and permission of the art program chairman, and are expected to observe the regulations of the school. Museum school courses are open only to studio majors.

Specific requirements for various studio options or tracks may be had from the program chairman. In general, the studio major must complete at least 10 studio courses, two courses in art history and two courses in related areas. Depending upon professional interest, courses in addition to the minimum number are required.

There is opportunity for independent studio study, special projects in visual art, and self-designed programs. Students may concentrate in film/video as part of the studio majors, and those interested in elementary or secondary teaching or art therapy may participate in the Department of Education's internship program as preparation for certification.

Studio and art history courses are available to non-majors and to students with combined or self-designed majors. Certain courses at the Worcester Craft Center are also available to non-majors.

Exhibitions of contemporary art and the work of Clark students are presented throughout the year in the Little Gallery, and advanced students may exhibit in the Goddard Library. The on-campus Craft Studio and the Art Association, a student organization open to all interested persons, offer opportunities for extra-curricular involvement in art and craft activities.

COURSES

11. INTRODUCTION TO WESTERN ART.

Ideally the first half of a two-semester sequence, this course covers classical, medieval, and early Renaissance art. The first several weeks are devoted to an examination of basic elements in the visual arts, and to certain fundamental matters of terminology and approach. Selected works are then discussed as exemplars of style and artistic quality in the context of the leading ideas of their respective eras. Because of the selective processes of time, architecture and sculpture must receive slightly greater emphasis than painting. Students are encouraged to observe original works in local museums. Full course, Semester 1.

Mr. Cowardin.

11. INTRODUCTION TO WESTERN ART II.

A continuation of 11., Introduction to Western Art I. The course will cover the history of Western art from the Renaissance up to the present, emphasizing painting, but touching on sculpture and architecture. Emphasis will be placed on characteristics of individual and period style within the works themselves, the primary aim being to develop sensitivity to pictorial elements. In addition, the social and historical background of the artists will be considered where appropriate. Evaluation will be based on ability to analyze and discriminate visually, rather than on

memorization of facts. Will offer a Sunday trip to the Boston museums.

Full course, Semester 2.

Mr. Barnett.

12. SURVEY OF PAINTING.

A general introduction to the art of painting, covering a wide range of examples from East and West. The approach is historical only in that the material is taken up more or less in historical sequence and the stylistic development is viewed against the background of changing ideas. But matters of technique, design, and expression receive due attention. Full course, Semester 2. Mr. Cowardin.

88. DIRECTED READINGS.

Semesters 1, 2, Modular Term.

Staff.

89. SPECIAL PROJECTS IN VISUAL ARTS.

Independent studio art study. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2, Modular Term.

98. SENIOR PROJECT IN STUDIO ART.

Full course, Semesters 1, 2.

Mr. Krueger.

99. SENIOR PROJECT IN ART HISTORY.

Individual research culminating in a major paper. Periodic meetings with the staff to evaluate and discuss progress. Required of all majors in art history.

Full course, Semesters 1, 2. Staff.

108. SEPULCHRAL ART.

The art of the tomb from ancient times through the eighteenth century, concentrating on the classical, medieval, and Renaissance traditions, but touching also on early American tombstones. Tomb sculptures are studied as works of art, as manifestations of style, and as reflections of attitudes toward death in different cultures and periods.

Full course, Semester 1.

Mr. Cowardin.

115. SELECTED SUBJECTS IN MEDIEVAL ART.

A brief overview of the main phases of medieval art is followed by a series of student reports intended to illuminate specific subjects or deal with special problems. A maximum of student participation, each member of the course being responsible for at least two reports. Enrollment limited. Prerequisite: one course in art history.

Full course, Semester 2.

Mr. Cowardin.

120. ITALIAN RENAISSANCE ART: 15TH CENTURY.

The course is concerned with art in the context of developing humanism and rationalism, mainly in Florence, but with excursions into northern Italy. The aim is to delineate the character of early Renaissance art and to distinguish its principal stylistic currents as they move toward confluence in the High Renaissance. Particular attention is given to the ideas of Alberti and some of the intellectuals in the circle of the Medici. Architecture, sculpture, and painting receive approximately equal emphasis.

Full course, Semester 1.

Mr. Cowardin.

121. ITALIAN RENAISSANCE ART: 16TH CENTURY.

The great figures of the High Renaissance art in Florence and Rome are the focus of the first part of the course. It will try to define, through readings and discussion, the special aesthetic qualities of this particular "classic moment," seen against the political and intellectual background. The course must also confront the difficult questions relating to the evolution of Mannerism, as well as the definition of this phenomenon. Finally, the scene will shift briefly to Venice. Class participation is encouraged and the coverage is kept flexible enough to accommodate it.

Full course, Semester 2.

Mr. Cowardin.

122. MICHELANGELO AND THE HIGH RENAISSANCE.

Not offered, 1976-77.

Concentrates of Michelangelo's work in architecture, sculpture, and painting, taking into account personal, religious, intellectual, and political influences on his life. His style will be viewed in relation to the Renaissance background as well as the Mannerist trends of the sixteenth century. Full course. Mr. Cowardin.

123. VENETIAN ART.

Not offered, 1976-77.

Art in the Veneto from the twelfth century through the eighteenth, with emphasis on the Renaissance. Seeks to define the qualities that distinguish the work of this region, especially in painting. The major figures, such as Palladio and Titian, will be studied in depth in the context of Venetian humanism and other elements of contemporary culture. Full course. Mr. Cowardin.

124. NORTHERN RENAISSANCE PAINTING.

Concentrates on painting in Flanders from Van Eyck to Bruegel. Style, technique, and expression in representative works will be viewed in relation to their own background and to contemporary work in Italy. A secondary focus will be on the impact of Italian influence upon the art of France, Germany, and the Netherlands in the sixteenth century.

Full course, Modular Term.

Mr. Cowardin.

130. 17TH CENTURY - THE HIGH BAROQUE.

Not offered, 1976-77.

The course will deal with the principal masters of European painting in the seventeenth century. It will emphasize close visual analysis of particular works in order to isolate the expressive intention of each artist as reflected in devices and techniques he employs. There will be a secondary emphasis on the social circumstances which underlie the broad range of national styles.

131. 18TH CENTURY — ROCOCO TO REVOLUTION.

Not offered, 1976-77.

The course is a continuation of the above, but the emphasis will be reversed. There will be a primary preoccupation with relationships between the art of the period and the social circumstances which produced it. There will be an attempt to relate events in painting both to political and social events and to parallel currents in the arts in general. Discussion will cover the broad social and philosophical questions raised by the painting examined.

Full course.

Full course.

Mr. Barnett.

Mr. Barnett.

140. 19TH CENTURY PAINTING — ROMANTICISM AND REALISM.

The course will cover European painting from the French Revolution to 1900, with an emphasis on painting in France and England. Stress will be placed on the social and intellectual context from which the art emerged, as well as upon internal developments in style. Special attention will be paid to stylistic and intellectual directions which led up to and through impressionism toward the emergence of modern art. Emphasis will also be placed upon the aesthetic ideas underlying successive shifts in style, and upon allowing students the opportunity to deal with these ideas in written work. Full course, Semester 2. Mr. Barnett.

160. ELEMENTS OF ARCHITECTURE.

The course will consider architecture as a form of expression, dealing with the major elements of architectural language generically rather than historically. Topics covered will include form, structure, space, and function. The major historical styles will be referred to as appropriate to illustrate concepts being

discussed. The course will also consider architectural design from a conceptual rather than a technical viewpoint, and will involve students in their own designs. The emphasis will be on understanding and pursuing a rational design process, rather than on the success of the design itself by practical or aesthetic standards. Student work will be an attempt to resolve operationally the tension between the architect's roles as master of expression and servant of human needs. It will include a series of projects, both written and graphic; there will be no examination.

Full course, Semester 1.

Mr. Barnett.

161. 20TH CENTURY ARCHITECTURE.

The course will cover developments in European and American architecture from the end of the nineteenth century to the present. It will begin with the ideas and works of the major figures: Sullivan, Wright, Gropius, Mies van de Rohe, and Le Corbusier. Emphasis will be not only on the development of style, but also on the social basis of their work. The course will then consider contemporary movements in architecture, emphasizing developments which redefine the direction established by the International School of the 1920's. In addition to the work of contemporary architects, futuristic visions of architecture and urban design will be looked at and evaluated. As much as possible, first-hand experience of works in the immediate area will be included.
Full course, Semester 2.

162. PROJECTS IN URBAN DESIGN.

This course will involve interested students in the planning and direction of the course, and thus cannot be certainly defined as to scope and content. Tentatively, it will involve students in a design project located in the immediate Worcester area, and may involve both theoretical studies and field work in addition to design. It will center around individual or group projects, coordinated with meetings of the whole group. Required work to be established by the class.

Full course, Modular Term.

Mr. Barnett.

168. DRAWING: HISTORY AND TECHNIQUES.

The course is intended to provide the student both with an historical understanding of the development of style, technique, and medium in drawing, and with direct first-hand experience. In addition to classroom presentation of historical developments, students will be exposed to original works in the collections of nearby museums, and will be involved in studio exercises paralleling their classroom experience. There will be no expectation of drawing skill or of previous studio experience; work will be judged in relation to the understanding it reflects of historical trends. In addition to exercises there will be at least one written work expected on a topic related to historical style or technique. Does not satisfy studio major requirement. Full course, Semester 1.

170. VISUAL DESIGN I — TWO-DIMENSIONAL FORM AND COLOR.

A studio course on campus designed to introduce the student to the nature of visual language and the creative process and to develop abilities for original creative thought and action. Basic two-dimensional studio problems in organization, color relationships, form, space, design, and visual communication are presented. Work in addition to the scheduled studio hours will be required. Open to non-majors.

Full course, Semester 1.

Mr. Krueger.

171. VISUAL DESIGN II — SPACE AND THREE DIMENSIONS.

A continuation of 170. to include the study of depth and plastic illusion and basic three-dimensional structural principles and forms. 170. is not a prerequisite but is recommended. Open to non-majors.

Full course, Semester 2.

Mr. Krueger.

172. VISUAL STUDIES.

A general designation for a group of one-semester studio courses of varying content designed to encourage the development of expressive and communicative visual arts skills. Opportunity is provided for individual study in traditional, contemporary, and experimental forms and materials. Specific semester topics include: Environmental Space Design, Drawing as Analysis, Expression, Painting, Contemporary Forms, and others to be determined by students' special interests and skills. 170. and 171. or the equivalent are recommended as preparation. Open to non-majors. Enrollment by permission of instructor. Half course, Semesters 1, 2. Mr. Krueger.

173. VISUAL STUDIES.

A continuation of 172. May be repeated for additional credit. Full course, Semester 2. Mr. Krueger.

174.CONTEMPORARY DIRECTIONS.

A studio course, with discussions and museum visits, which will be concerned with a practical, experiential examination of current movements, directions, styles, and attitudes in the visual arts. Specific topics include: the Avant-garde, American Modes, Modern Uses of the Figure, and others to be determined by Modular Term special program requirements. Students will be expected to study in depth, through their own studio work, a specific contemporary style or to experiment with a number of modes. Enrollment by permission of the instructor. Formerly Art 142. May be repeated for additional credit.

Full course, Modular Term.

Mr. Krueger.

176. DRAWING: PERCEPTION AND SELECTION.

This will be a course in drawing from nature, including still-life, the human figure, portraiture, and landscape. The emphasis will be on the development of skills in seeing, and in recording what you see selectively. There will be no expectation of previous experience, or of special talent; evaluation will be entirely on the basis of effort and seriousness of interest. Drawing as expression, or the exploration of media, will not be emphasized. Half course, first half, Semester 1.

188. PHOTOGRAPHY. (at the Craft Center)

A beginning course and an intermediate/advanced program. Practice in the techniques and aesthetics of photography as a medium or personal expression. Lectures, field trips, and discussions supplement studio and dark room work. A variable setting 35mm or 2-1/4 x 2-1/4 camera is required. Materials fee. Full course, Semesters 1, 2. Craft Center Staff.

188. PRINTMAKING. (at the Craft Center)

A course designed to familiarize the student with one or more of the graphic techniques: etching, engraving, woodcut, silkscreen. For intermediate and advanced students, the course will emphasize technique and quality in printmaking. Materials fee.

Full course, Semesters 1, 2.

Craft Center Staff.

188. CERAMIC DESIGN. (at the Craft Center)

An exploration of form, texture and color using basic clayworking methods of hand-forming, coil building, and slab construction. Emphasis is on developing an awareness of the elements of sculptural design rather than an attempt to produce utilitarian pottery. Intermediate and advanced students may be accepted by permission of the instructor or advanced sections may be offered.

Full course, Semesters 1, 2.

Craft Center Staff.

199. MUSEUM SCHOOL STUDIO COURSES

A general designation for all courses at the School of the Worcester Art Museum. Open only to studio art majors by

portfolio evaluation and permission of the art program chairman. These are full-year courses and may not be entered in mid-year.

Drawing and Painting I Visual Design I

Three-dimensional Design I Drawing and Painting II

Life Drawing and Painting I Commercial Art Design I

Technics

Illustration I Sculpture I

Photography I

Painting III

Figure Drawing (Half course) Illustration II

Three-dimensional Design II

Graphics I Photography II

Sculpture II

Life Drawing and Painting II

Commercial Art Design II Independent Study

See the Museum School catalog and schedule for complete course descriptions and listings.

Double courses, Semesters 1, 2. Museum School Staff,

VPA 89. INTER-DISCIPLINARY CREATIVE WORKSHOP.

(See course description under MUSIC.)

FILM STUDIES

PROGRAM FACULTY

Anthony W. Hodgkinson, Associate Professor of Film Studies; Associate Chairman for Film Studies Program Charles H. Slatkin, M.F.A., Lecturer in Film/Video Production

UNDERGRADUATE PROGRAM

The program in film studies is designed to help the student acquire a critical understanding and appreciation of our youngest art. A full understanding of film involves two related activities: (1) the viewing, discussion, and evaluation of a large number of significant works; and (2) initial attempts, through simple film and/or video production exercises, to express oneself in a technically demanding medium.

The emphasis of most courses is on the viewing, discussion, and assessment of films; the courses are designed to have particular reference to the historical and social impact of film, its aesthetics and techniques. The production courses are deliberately set at an introductory, elementary level; there is no intention of providing a professional training in either film or

There is no major in film studies per se offered at present. but attention is directed to the possibilities both of a studentdesigned major, and (for art majors) a studio major, with emphases on film in its relation to other liberal arts.

COURSES

10. INTRODUCTION TO FILM STUDIES I: THE ELEMENTS OF FILM.

A survey of the varied techniques used in the making of all screen communications (film, television, video): the invention of the language; silent film narrative; editing; music; speech and sound. Lecture/screenings; analyses of two or three feature films, term papers, and readings. Either this course or 15, is a prerequisite for other film studies courses. Open to freshmen. Full course, Semester 1. Staff.

15. INTRODUCTION TO FILM STUDIES II: THE STUDIO TEAM.

In a series of lecture/screenings, the contributions to the final film of each of the major members of the studio team — writer,

director, actor, etc. - are examined, and two or three feature films are analyzed in detail. Term papers and readings. Either this course or 10. is a prerequisite for other film studies courses. Open to freshmen.

Full course, Semester 2: Mr. Hodginson.

11. ASPECTS OF FILM HISTORY.

Under this general heading, various facets of the 75 years of cinema will be explored in a series of lecture/screenings, and discussions. Content varies each time the course is taught, and it may be taken more than once. This year, the intention is to survey the history of Italian Neo-realism and the early works of Fellini. Term papers and readings. Prerequisites: 10. and 15. and permission of instructor.

Full course, Semester 2. Mr. Hodgkinson.

12. FILM AND SOCIETY. Not offered, 1976-77.

A thematic exploration of the ways the cinema has reflected/affected its contemporary society. Content varies each time the course is taught, and it may be taken more than once. Lecture/screenings and discussions, term papers, and readings. Prerequisites: 10. or 15. and permission of instructor. Mr. Hodakinson.

13. GREAT FILM DIRECTORS.

A series of lecture/screenings in which the canon of work of various significant directors will be studied and assessed. The director varies each time the course is taught, and it may be taken more than once. Directors previously dealt with have include Luis Buñuel, Stanley Kubrick, and Ernst Lubitsch. This year, attention will be paid to the work of Billy Wilder. Prerequisites: 10. or 15. and permission of instructor. Full course, Semester 1. Mr. Hodgkinson.

14. LITERATURE OF FILM: RELATIONSHIPS BETWEEN LITERATURE AND FILM.

A course in which some of the significant books of film theory. aesthetics, history, etc. are studied in detail and in depth. The course this year will be taught jointly with the Department of English and the emphasis will be on adaptations of literature to film. (See also English 14.) Prerequisite: 10. or 15. Full course, Semester 2. Mr. Hodgkinson, Mr. Elliott.

88. DIRECTED READINGS.

A sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2, Staff.

89. SPECIAL PROJECTS.

Independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2. Staff.

100. ELEMENTARY FILM/VIDEO PRODUCTION.

A practical workshop in super-8mm film and half-inch video production. Student work will be analyzed and criticized. Prerequisite or co-requisite: 10. or 15. Full course, Semesters 1, 2. Mr. Slatkin.

101. ADVANCED FILM/VIDEO PRODUCTION.

A practical workshop in which production both of Super-8mm films and half-inch videotapes may be developed on a slightly more advanced level than Film 100. Prerequisites: 100. and permission of instructor. Full course, Semester 2. Mr. Slatkin.

VPA 89. INTERDISCIPLINARY CREATIVE WORKSHOP.

(See description under Music.)

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PROGRAM FACULTY

Relly Raffman, A.M., George N. and Selma U. Jeppson
Professor of Music, Department Chairman
Gerald R. Castonguay, Ph.D., Associate Professor of Music
Wesley M. Fuller, M.Mu., Associate Professor of Music
Susan Clickner, B.M., Assistant Professor of Voice (Affiliate)
Evelyn Fuller, M.Mu., Assistant Professor of Piano (Affiliate)
Diana Raffman, B.A., Assistant Professor of Flute (Affiliate)
David Sussman, B.A., Assistant Professor of Guitar (Affiliate)
Barbara Levy, B.M., Director of Choral Activities
Allan Mueller, Affiliate in Piano and Jazz Studies

UNDERGRADUATE PROGRAM

The department offers courses designed to teach students how to listen to music intelligently, to develop a comprehension of music on its own terms, and to acquaint students with representative works from various periods of music history.

The goals of the music program are to provide a well-ordered-and-taught curriculum emphasizing those areas of music in which the members of the faculty have considerable expertise and which afford a well-rounded slate of studies for majors, namely: Theory, Composition, History, and a restricted number of performance specialties. In addition, it seeks to provide a diversity of experience in the performance of chamber, orchestral, and choral music not only for the music major but for the student body in general.

The music major includes the following courses:

Prerequisite: Music 120. (Rudiments of Music) or placement examination.

Theory: 121., 122., 123., 124., 125. Music History: 12., 13., 14., 15., 119.

Performance: a minimum of four semesters in 107., 117., 127. or 137.

Related areas: a full course in fine arts, theatre art, or film studies; or a full course in aesthetics.

A minimum essentials test, including sight-singing and dictation at a level of proficiency necessary for the successful pursuance of the major, must be passed during the sophomore year. A keyboard proficiency examination must be passed during the junior year. As a senior, the music major, with the permission of the department, may elect two full courses of tutorial work in one or more of the following areas: Music History (118.), Composition (128.) or Theory (138.). Those wishing to concentrate in a performance area must pass an audition at the beginning of the junior year. In addition, all majors must complete nine full courses outside of Philosophy 149. (Aesthetics), courses in visual and performing arts, and literature. Individual instruction in piano, jazz piano, flute, guitar, violin, and voice will be offered for credit during the 1976-

77 academic year. Arrangements for lessons should be made at

the music office during the registration period. Practice rooms

COURSES

10. INTRODUCTION TO MUSIC.

are available without charge.

Designed for the non-major, this course is a prerequisite for entrance into all music history or survey courses. No credit towards the major is allowed. Open to freshmen. Full course, Semesters 1, 2. Staff.

110. INTRODUCTION TO MUSIC.

Special topics in music pedagogy. For majors only. Half course, Semesters 1, 2. Staff.

120. RUDIMENTS OF MUSIC.

An introduction to the fundamentals of music. no previous experience is necessary. Notation, ear-training, sight-singing, score reading, and elementary melodic and harmonic organization. Satisfies prerequisite for credit in Music 18. and entrance to Music 121.

Full course, Semester 2. Mr. Fuller.

121. PRIMARY THEORY.

A study of the structure of tonal music. Analytical and compositional problems in homophonic, monodic, and polyphonic textures. Basic orchestration. Ear-training, sight-singing, and conducting. Prerequisite: 120. or entrance examination (given at first class meeting). Offered through the year. Divisible course.

Full course, Semesters 1, 2. Mr. Raffman.

12. MEDIEVAL AND RENAISSANCE PERIODS.

Beginning with early Christian chant, this survey includes a study of the Medieval song and motet, the growth of polyphonic secular and sacred music extending through the sixteenth century, culminating with the study of the Renaissance mass and madrigal. Works are performed in class and scores provided for the majority of works studied. Prerequisite: 10., 120., or permission. Offered in alternate years.

Full course. Semester 1. Mr. Castonguay.

122. THEORY: MODAL COUNTERPOINT.

Contrapuntal styles in two-, three-, and four-part textures of major composers of the fifteenth and sixteenth centuries are analyzed and used as a foundation for compositional assignments. Twentieth-century modal polyphony is also studied. Prerequisite: 121. Offered in alternate years. Full course, Semester 1.

Mr. Fuller.

13. BAROQUE PERIOD.

A survey of music from 1600 to 1750. This course deals with the origins and growth of vocal and instrumental genres (opera, oratorio, cantata, sonata, concerto, etc.) and the wide variety of formal types closing with the works of Bach and Handel. When possible, works are performed in class and scores provided for some of the works studied. Miniature scores will be required for selected works. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years.

Full course, Semester 2.

113. J.S. BACH AND HIS MUSIC. Not offered, 1976-77.

This course focuses on the study of Bach and his music. It investigates the social, historic, and cultural setting of Bach's era, and, in particular, it encompasses an intense study of his music including the early cantatas and organ works, the instrumental music from his Cothen period, and, finally, the mature cantatas of his Leipzig years. When possible, works will be performed in class and scores will be provided for the majority of works studied. Prerequisite: 10. or 120. Offered in alternate years.

Full course.

Mr. Castonguay.

123. THEORY: 18TH-CENTURY COUNTERPOINT.

Compositional and analytical problems in the eighteenth century contrapuntal idiom: two and three-part inventions, canon and fugue. The thoroughbass practice of the seventeenth and eighteenth centuries is explored. Final project: the composition of a three or four-voice fugue. Prerequisite: 121. Offered in alternate years.

Full course, Semester 2.

Mr. Raffman.

14. CLASSICAL AND ROMANTIC PERIODS.

Not offered, 1976-77.

A survey of music from 1750 to 1900. Beginning with a survey of Italian, French, and Viennese styles, the course focuses on the

music of Mozart, Haydn, and Beethoven, and continues with the study of selected works from major composers of the nineteenth century. When possible, works are performed in class. Miniature scores are required for some of the works studied. Prerequisite: 10., 120. or permission of instructor. Offered in alternate years. Full course. Mr. Castonguay.

114. BEETHOVEN: THE MAN AND HIS MUSIC.

Not offered, 1976-77.

The study of Beethoven as man and artist. This course explores the social and historical background of Beethoven's Vienna and centers on the study of selected works from the important genres (symphony, chamber music, and sonata) throughout Beethoven's career. Miniature scores are required for a number of works studied. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years. Full course. Mr. Castonguay.

124. THEORY: 19TH-CENTURY PRACTICE.

Not offered, 1976-77.

Problems in analysis, composition, and orchestration in the chromatic style of the nineteenth century. Works of Beethoven, Chopin, Schumann, Wagner, and Brahms are analyzed and used as compositional models. As well, the harmonic language of Impressionism, with its emphasis on scalar control, is examined. Prerequisite: 121. Offered in alternate years. Full course. Mr. Raffman.

15. TWENTIETH-CENTURY MUSIC. Not offered, 1976-77.

A survey of early twentieth-century masterworks. Representative composers: Debussy, Ravel, Prokofiev, Stravinsky, Bartok, Hindemith, Schoenberg, Berg, and Webern. Offered in alternate years. Prerequisite: 10. or 120. Full course. Mr. Raffman.

125. THEORY: 20TH-CENTURY PRACTICE.

Not offered, 1976-77.

Compositional techniques of major twentieth-century composers are studied and used as a basis for analysis and compositional assignments. Offered in alternate years. Prerequisite: 124. or permission of instructor. Full course. Mr. Fuller.

16. THE MUSIC OF JOHANNES BRAHMS.

Brahms as man and musician in the latter half of nineteenthcentury Vienna. Detailed analyses of his chamber and orchestral music, lieder and keyboard works. Whenever possible, works will be performed live in class. Although scores will be provided in the majority of cases, students will be expected to provide several of their own purchase for extended study. Prerequisite: 10. or 120.

Full course, Semester 1.

Mr. Castonguay.

18. PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE.

Offered in 1976-77, piano, jazz piano, voice, flute, guitar, and violin. One quarter course credit per semester, to be held in escrow until a half course is earned and prerequisite passed. Prerequisite for credit: successful completion of Music 120. or passing an entrance examination to Music 121. (given in September and January).

Quarter course, Semester 1.

Quarter course, Semester 2.

Staff.

19. SURVEY: WORLD MUSIC.

Musical styles of cultures not in the Western European tradition. Specific topics vary each time the course is presented, but music of India, Africa, and the American Indian will be included in 1977. Prerequisite: 10. or 120. Offered in alternate years. Mr. Fuller.

Full course, Semester 2.

119. SURVEY: MUSIC OF THE AVANT GARDE.

Stylistic developments of European and American music composed since 1950. Composers: Stravinsky, Stockhausen, Cage, Carter, Boulez, Messiaen, and others. Offered in alternate years. Prerequisite: 15. or permission of instructor. Full course, Semester 2. Mr. Fuller.

130. JAZZ WORKSHOP.

Those entering the workshop must also register in 131. and are expected to have had practical experience in jazz performance. Offered in alternate years. Prerequisite: permission of instrustor.

Half course, Second half, Semester 1. Mr. Raffman, Mr. Mueller.

131. JAZZ THEORY.

The progressive harmonic fabric of classical jazz is examined as well as the scalar structures of the avant garde. Aural analysis and compositional exercises. Prerequisite: 121. or permission of instructor. Offered in alternate years. Full course, Semester 1. Mr. Raffman.

132. HISTORY OF JAZZ.

A study of the evolution of jazz style from the early twentieth century to the 1960's: Ragtime, Dixieland, the Blues, Swing, Bop, Cool, and Avant Garde. Research paper and final examination. Offered in alternate years. Half course, First-half, Semester 1. Mr. Raffman.

118. SENIOR TUTORIAL IN MUSIC HISTORY.

Majors only. Prerequisite: permission of instructor. Full course, Semesters 1, 2. Staff.

128. SENIOR TUTORIAL IN COMPOSITION.

Majors only. Prerequisite: permission of instructor. Full course, Semesters 1, 2.

138. SENIOR TUTORIAL IN THEORY

Majors only. Prerequisite: permission of instructor. Full course, Semesters 1, 2.

148. SENIOR TUTORIAL IN PERFORMANCE.

Majors only. Audition must be passed at beginning of junior

Full course, Semesters 1, 2, Staff.

90. DIRECTED STUDIES IN ELECTRONIC MUSIC.

Students are given basic instruction in studio techniques and special times for individual studio work. Several group meetings are arranged for listening to and discussion of significant compositions. The Clark Studio is equipped with a Buchla Synthesizer.

Variable credit, Semesters 1, 2,

Mr. Fuller.

VPA 89. INTER-DISCIPLINARY CREATIVE WORKSHOP.

An inter-media group comprised of faculty and former students and functioning throughout the academic year. Students who have had training in film, video, art, or music and who are ready to enter into creative projects may work within the program of their interest. The group presents experimental workshops as well as a full production. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2,

The following musical activities are open to all students, graduate and undergraduate alike. Auditions are held during the first week of Semester 1. Although no credit is awarded, the transcript of any undergraduate who completes the assigned performance requirements will include a listing of the particular activity for which he or she was registered.

107. CHAMBER MUSIC ENSEMBLES.

Semesters 1, 2. Mr. Fuller, Mr. Raffman.

117. CONCERT CHOIR.

Semesters 1, 2.

Ms. Levy.

127. CHORAL SOCIETY.

Semesters 1, 2.

Ms. Levy.

137. ORCHESTRA.

Semesters 1, 2.

Mr. Castonguay.

THEATRE ART

DEPARTMENT FACULTY

Carol Sica, M.F.A., Associate Professor of Theatre Art, Associate Chairman for Theatre Art Neil R. Schroeder, Ph.D., Associate Professor of Theatre Art Donna Allinson, M.A., Lecturer in Theatre Art

UNDERGRADUATE PROGRAM

The program in theatre art is designed to give students both practical and scholarly experience in all phases of theatre. Courses are open to qualified undergraduates who are willing to devote the time and energy which are necessary for their completion. They are designed to develop theatre artists with a sound humanistic education and to prepare those who are interested for graduate training in educational and professional theatre.

Students who take courses in theatre art will be expected, as part of their course work, to participate in production of the Theatre Art Program at Clark University. Other students are invited to try out for roles or assume technical positions as an extra-curricular activity.

Theatre courses other than those offered at Clark are available through the Worcester Consortium for Higher Education, particularly at the College of the Holy Cross and Worcester State College. Students should consult the listing in the department office at registration time. In most cases, transportation for these courses will be provided by the Worcester Consortium bus.

The General Program: Through the Worcester Consortium and interdepartmentally at Clark, courses are available in the following areas: theatre history and criticism, dramatic literature, theatre education, acting and directing, technical theatre and design, and playwriting. All courses without prerequisites are open to any student on an elective basis, and advanced courses are available on an elective basis to those students who have the necessary prerequisites.

The Theatre Art Major: The major program trains students in the fundamentals of various theatre disciplines and prepares them for further training and experience. Each major should plan to concentrate in one of the following areas: acting and/or directing; technical theatre and design; theatre history, criticism, and dramatic literature. Those who wish to specialize in theatre education should, insofar as their program permits, pick up another theatre concentration as well. Much of the advanced work in theatre is accomplished through Directed Readings (Theatre Art 88.), Special Projects (Theatre Art 89.) and advanced tutorials, some of which will be created specifically for each student. Advanced tutorials in areas other than acting and directing which are already on the books will be created to meet student demand whenever possible.

The theatre art major consists of a minimum of 15 full courses in the following categories:

 Core Curriculum Required of all majors, three full courses as follows: Introduction to Theatre, a basic acting course, and a course in basic technical theatre and design.

2) Drama/History Core Required of all majors, a minimum

of three full courses in theatre history and criticism and dramatic literature. At least one of these courses must in theatre history, and at least two of them must be in materials prior to the twentieth century. Other than theatre history, students may elect to take courses in dramatic literature, taught in theatre art, English, comparative literature, classics, etc.

3) Major Concentration A minimum of three additional courses in the theatre major's area of concentration.

4) Theatre Electives A minimum of three additional courses in theatre art. These may be more courses in the major's area of concentration, they may be in any studio or non-studio area of theatre, or they may be courses in dramatic literature taught in theatre art or in other departments.

5) Related Fields A minimum of three courses in related fields, with specific courses and the related fields determined by the major's area of concentration

The Theatre Art "Minor" or Double Major Students who wish to design a program in theatre art which will serve as a minor program or part of a double major are welcome to do so under the direction of the associate chairman. Each program will be designed to meet the individual's specific need. While some may wish to develop a program independent of other concerns, others may wish to integrate their program with disciplines such as music, fine arts, film, English, modern languages and literatures, philosophy, etc.

All students who plan to major in theatre art or to take a significant portion of their program in theatre art, should consult the associate chairman early in their careers, for many of the fundamental courses should be taken before the junior year.

COURSES

10. INTRODUCTION TO DRAMA. Not offered, 1976-77.

A formal approach to dramatic analyis, this course will examine several types of plays from different periods in order to enable the student to understand and evaluate varied techniques of dramatic construction and theatrical presentation. No prerequisite.

Full course.

Mr. Schroeder.

11. VOICE AND DICTION.

An intensive applied phonetic approach to articulation and voice production with some emphasis on speech for the stage. No prerequisite.

Full course, Semester 1.

Mr. Schroeder.

14. BASIC ACTING.

A systematic approach to acting. Development of the "inner life" through analysis, improvisation, and scene study. There will be a performance workshop. Additional lab hours will be required. No prerequisite.

Full course, Semester 1.

Ms. Sica.

15. INTERMEDIATE ACTING.

An approach to scene study and character analysis. Presentation of scenes from all genre of theatre. Additional lab time required. Prerequisite: Theatre Art 14.
Full course, Semester 2. Ms. Sica.

18. FUNDAMENTALS OF DIRECTING.

An introduction to the principles of directing for the stage through theory, practical application, discussion, and field trips to local professional theatre. Additional lab hours required. No prerequisite.

Full course, Semester 1.

Ms. Sica.

19. DIRECTING SEMINAR.

Advanced problems of interpretation and concept. The role of the director as creative and interpretive artist, relationship to designer, stage manager, and actors. Students, upon permission

of the instructor, will produce a one-act play or equivalent.
Additional lab time required. Prerequisites: Theatre Art 18. and permission of instructor.

Full course, Semester 2.

Ms. Sica.

88. DIRECTED READINGS.

A sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

89. SPECIAL PROJECTS.

Independent research on a particular problem or an original creative project directly supervised by the instructor.

Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

100. INTRODUCTION TO THE THEATRE.

An introductory survey of theatrical theories and practice which exposes the student to all facets of theatre study, both practical and scholarly. The roles of the actor, director, designer, playwright, producer, and the audience will be examined in the context of contemporary practice as well as in historical perspective. No prerequisite.

Full course, Semester 1.

Mr. Schroeder.

120. BASIC TECHNICAL THEATRE AND DESIGN I.

Fundamental problems of scene, costume, and lighting design as they are related to the theatre technician will be considered along with intensive work in the technology of scene and costume construction and the application of lighting design. Laboratory in the form of specific working crew assignments. No prerequisite.

Full course, Semester 1.

Ms. Allinson.

121. PRINCIPLES OF STAGE MANAGEMENT.

Not offered, 1976-77.

A course in the techniques of stage management and the problems of planning and running rehearsals and performances. Students will receive practical experience by serving on the working crews and in managerial positions on productions. No prerequisite.

Full course.

Mr. Schoeder.

122. BASIC TECHNICAL THEATRE AND DESIGN II.

A continuation of Theatre Art 120. with added emphasis on problems of design. Prerequisite: Theatre Art 120. Full course, Semester 2. Ms. Allinson.

151. THE THEATRE FROM THE GREEKS THROUGH THE MIDDLE AGES.

A survey of Greek, Roman, and medieval theatre, including considerations of the form and substance of theatrical



presentations and study of several representative plays. No prerequisite.

Full course, Semester 1.

152. THE RENAISSANCE THEATRE.

A survey of European theatre practice during the Renaissance, with emphasis on the contributions of Italy, France, and England. No prerequisite.

Full course, Semester 2.

Mr. Schoeder.

153. EUROPEAN THEATRE IN THE 18TH AND 19TH CENTURIES.

Not offered, 1976-77.

A survey of continental and English theatre from the Restoration period in England to the end of the nineteenth century. No prerequisite.

Full course.

Mr. Schroeder.

154. THE MODERN THEATRE TO WORLD WAR II.

Not offered, 1976-77.

A study of the modern theatre from the realistic revolt at the end of the nineteenth century to the period of World War II. No prerequisite.

Full course.

Mr. Schroeder.

155. THE THEATRE SINCE WORLD WAR II.

Not offered, 1976-77.

A study of theatre since World War II, including consideration of the many experimental movements which have contributed to the contemporary theatre. No prerequisite. Full course. Mr. Schroeder.

161. THE AMERICAN THEATRE TO 1920.

Not offered, 1976-77.

A survey of American theatre and drama from colonial times to 1920, including study of theatre architecture, scene and costume design, acting styles, production methods, audiences, and representative plays. No prerequisite. Full course. Mr. Schroeder.

162. THE AMERICAN THEATRE, 1920 TO THE PRESENT.

The course will highlight the major developments in the American theatre during the past fifty years. It will focus primarily on theatre organizations and on ensembles, prominent directors, dramatic forms, innovations in theatre architecture. and leading stage designers. The decentralization of the theatre and the nature of B'way, off- and off-off B'way, "residence" and "regional, theatre," as well as the political and experimental theatre of the 60's and 70's will be explored. No prerequisite. Full course, Semester 2. Mr. Schroeder.

164. THE AMERICAN MUSICAL THEATRE.

A survey of American musical comedy and other musical entertainments from The Black Crook to the present. After a brief study of musical theatre in nineteenth century America and foreign and domestic influences on it, the course will concentrate on selected figures and works in twentieth-century musical comedy. No prerequisite.

Full course, Semester 2. Mr. Schoeder.

170. INTRODUCTION TO PLAYWRITING. Not offered, 1976-77.

A study of the problems of plot construction, characterization, dialogue writing, and theatricalization. Students will be expected to produce written assignments which demonstrate the various problems of playwriting. In addition, students will be asked to write at least one complete one-act play or portions of a longer play, or, in substitution, a detailed analytical project. Admission to the course is by permission of the instructor; to obtain permission, the student will be asked to demonstrate a

familiarity with several types of dramatic literature, and, if possible, he/she should have taken Theatre Art 10. Full course. Mr. Schroeder.

185. TENNESSEE WILLIAMS. Not offered, 1976-77.

An intensive study of Tennessee Williams, concentrating on his development as an artist. Evaluation of his contribution to drama and literature through reading and analysis of his works. No prerequisite, but some experience in drama and literature is expected. Mr. Schroeder.

Full course.

199. HOLY CROSS COURSES.

All Theatre Art courses taken at the College of the Holy Cross are numbered 199. Content is differentiated by title only. During each registration period, students should consult the list of courses available in the Theatre Art Office.

204. ADVANCED TUTORIAL IN ACTING I.

Special study and coaching in acting problems for experienced actors only. Prerequisites: at least two courses in drama or theatre history and permission of instructor. Staff. Variable credit, Semesters 1, 2.

205. ADVANCED TUTORIAL IN ACTING II.

Continuation of Theatre Art 204. Prerequisites: Theatre Art 204., and permission of instructor. Variable credit, Semesters 1, 2. Staff.

206. ADVANCED TUTORIAL IN ACTING III.

Continuation of Theatre Art 205. Prerequisites: Theatre Art 205., and permission of instructor. Variable credit, Semesters 1, 2. Staff.

207. ADVANCED TUTORIAL IN ACTING IV.

Continuation of Theatre Art 206. Prerequisites: Theatre Art 206., and permission of instructor. Variable credit, Semesters 1, 2. Staff.

242. ADVANCED TUTORIAL IN DIRECTING I.

Special study and coaching in problems of directing for experienced directors only. Prerequisites: Theatre Art 19., at least two courses in drama or theatre history, and permission of instructor. Variable credit, Semesters 1, 2.

243. ADVANCED TUTORIAL IN DIRECTING II.

Continuation of Theatre Art 242. Prerequisites: Theatre Art 242., and permission of instructor. Variable credit, Semesters 1, 2. Staff.

281. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA. Not offered, 1976-77.

A seminar devoted to the intensive study of a small group of dramatists or of a special dramatic problem of the Renaissance. Independent study and research is emphasized. Prerequisite: permission of instructor. Full course. Mr. Schroeder.

286. SEMINAR: IBSEN. Not offered, 1976-77.

An intensive study of the major plays of Ibsen and criticism of his life and work. Consideration will be given to his development as an artist. Independent research and study is emphasized. Prerequisite: permission of instructor. Full course. Mr. Schroeder.

VPA 89. INTERDISCIPLINARY CREATIVE WORKSHOP.

(See description under Music.)



Members of the faculty and officers for 1976-77 are listed alphabetically with their titles, degrees, and years at Clark University. Persons no longer on the faculty, but who served during the previous year are included also.

PRESIDENT

MORTIMER H. APPLEY, Ph.D., President of the University, Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950. (1974-)

EMERITI

KARL O.E. ANDERSON, Ph.D., Professor of English. A.B., Harvard University, 1927; A.M., 1928; Ph.D., 1942. (1945-1976) KARL J.R. ARNDT, Ph.D., Professor of German, Emeritus.

(1950-1974)

LYDIA P. COLBY, B.S., Registrar, Emeritus. (1932-1966)
JESSIE C. CUNNINGHAM, Ph.D., Associate Professor of English, Emeritus. (1957-1975)

TAMARA DEMBO, Ph.D., Professor of Psychology, Emeritus.

(1953-1972)

GEORGE E. HARGEST, M.B.A., Associate Professor of Economics, Emeritus. (1942-1971)

SHERMAN S. HAYDEN, Ph.D., Professor of International Relations, Emeritus. (1946-1973)

HOWARD B. JEFFERSON, Ph.D., LL.D., L.H.D., Litt.D., President, Emeritus. A.B., Denison University, 1923; Ph.D., Yale University, 1929; LL.D., Denison University, 1948, Hillsdale College, 1952, Northwestern University, 1958; L.H.D., Colgate University, 1951, Assumption College, 1956; Litt. D., College of the Holy Cross, 1962; L.H.D., Clark University, 1967; LL.D., Emerson College, 1968; Litt. D., Anna Maria College, 1972. (1946-1967)

VERNON JONES, Ph.D., Professor of Educational Psychology,

Emeritus. (1926-1968)

FREDERICK W. KILLIAN, LL.B., Associate Professor of Sociology, Emeritus. (1947-1970)

- DWIGHT E. LEE, Ph.D., L.H.D., Jacob and Frances Hiatt Professor of European History, Dean of the Graduate School, Emeritus. (1927-1967)
- RAYMOND E. MURPHY, Ph.D., Professor of Economic Geography, Emeritus. (1946-1968)
- THEODORE NICOL, Ph.D., Associate Professor of Romance Languages, Emeritus. (1946-1969)
- J. RICHARD REID, Ph.D., Professor of Romance Languages, Emeritus (1944-1976)
- PERCY M. ROOPE, Ph.D., Professor of Physics, Emeritus. (1921-1962)
- HENRY J. WARMAN, Ph.D., Professor of Geography, Emeritus. (1943-1974)

FACULTY AND OFFICERS OF INSTRUCTION

DAVID ABRAHAM, Ph.D., Assistant Professor of English. B.A., Brooklyn College, 1966; M.A., University of Massachusetts, 1968; Ph.D., 1973. (1973-)

VERNON AHMADJIAN, Ph.D., Professor of Botany. A.B., Clark University, 1952; A.M., 1956; Ph.D., Harvard University, 1960. (1959-1968, 1969-)

HARRY C. ALLEN, JR., Ph.D., Professor of Chemistry, Department of Chemistry Chairman. B.S., Brown University, 1949; Ph.D., University of Washington, 1951. (1969-)

DONNA ALLINSON, M.A., Lecturer in Theatre Art. B.A., Central Connecticut State College, 1967; M.A., 1970. (1975-)

- ROY S. ANDERSEN, Ph.D., Professor of Physics. A.B., Clark University, 1943; A.M., Dartmouth College, 1948; Ph.D., Duke University, 1951. (1960-)
- ALBERT A. ANDERSON, Ph.D., Associate Professor of Philosophy. B.A., Morningside College, 1960; M.A., Boston University, 1963; Ph.D., 1971. (1973-)

- MORTIMER H. APPLEY, Ph.D., President; Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950. (1974-)
- LAWRENCE J. BADER, Ph.D., Assistant Professor of Education (Affiliate). B.A., City University, N.Y.C., 1959; M.A., 1962; Ph.D., Boston University, 1970. (1973-)

ROBERT W. BAKER, Ph.D., Professor of Psychology; Director, Psychological Services Center. A.B., Hobart College, 1947; Ph.D., Clark University, 1953. (1954-_)

RAYMOND E. BARBERÁ, Ph.D., Professor of Romance Languages, Chairman of Comparative Literature Program. A.B., Brooklyn College, 1947; A.M., University of Arizona, 1948; Doctor en Letras, Universidad Nacional de México, 1949; Ph.D., University of Wisconsin, 1958. (1953-)

PETER M. BARNETT, Ph.D., Assistant Professor of Art History. B.A., Amherst College, 1963; M.A., Harvard University, 1965; Ph.D., 1972. (1970-)

TILTON M. BARRON, B.L.S., Librarian. A.B., Colorado College, 1937; B.L.S., Columbia University School of Library Science, 1940. (1954-)

THOMAS C. BARROW, Ph.D., Professor of American History (Affiliate). B.A., Harvard University, 1952; M.A., 1954; Ph.D., 1961. (1967-)

JAMES F. BEARD, JR., Ph.D., Professor of English. A.B., Columbia College, 1940; A.M., Columbia University, 1941; Ph.D., Princeton University, 1949. (1955-)

ROBERT N. BECK, Ph.D., Professor of Philosophy; Department of Philosophy Chairman. A.B., Clark University, 1947; A.M., Boston University, 1948; Ph.D., 1950. (1948-1967; 1968-)

D. FRANK BENSON, M.D., Professor of Psychology (Affiliate). B.A., University of North Dakota, 1950; B.S. (in Medicine), 1951; M.D., Northwestern University, 1953. (1974-)

LEONARD BERRY, Ph.D., Professor of Geography; Co-Director of International Development Program; Dean of the Graduate School; Coordinator of Research. B.Sc., University of Bristol, 1951; M.Sc.,1956; Ph.D., 1969. (1969-)

ROGER BIBACE, Ph.D., Professor of Psychology. A.B., University of British Columbia, 1949; Ph.D., Clark University, 1957. (1957-)

GEORGE A. BILLIAS, Ph.D., Professor of American History. A.B., Bates College, 1948; A.M., Columbia University, 1949; Ph.D., 1958. (1962-)

CHARLES S. BLINDERMAN, Ph.D., Professor of English. A.B., New York University, 1952; A.M., 1953; Ph.D., Indiana University, 1957. (1962-)

JOHN BLYDENBURGH, Ph.D., Professor of Government and International Relations; Department of Government and International Relations Chairman. B.A., Harpur College, 1965; Ph.D., University of Rochester, 1969. (1975-)

DANIEL R. BORG, Ph.D., Associate Professor of European History. A.B., Gustavus Adolphus College, 1953; A.M., Yale University, 1957; Ph.D., 1963. (1961-)

MARTYN J. BOWDEN, Ph.D., Professor of Geography. B.A., London University, 1957; M.A., University of Nebraska, 1959; Ph.D., University of California, Berkeley, 1967. (1964-)

DAEG S. BRENNER, Ph.D., Associate Professor of Chemistry. B.A., Rensselaer Polytechnic Institute, 1960; Ph.D., Massachusetts Institute of Technology, 1964. (1967-)

JOHN J. BRINK, Ph.D., Professor of Biochemistry. B.Sc., University of Orange Free State, 1955; B.Sc., (Hons.), University of Witwatersrand, 1956; Ph.D., University of Vermont, 1962. (1966-)

DONALD M. BROVERMAN, Ph.D., Professor of Psychology (Affiliate). A.B., Union College, 1952; M.A., Clark University, 1956; Ph.D., 1958. (1964-)

J. WHITNEY BROWN, M.D., Professor of Psychology (Affiliate).
A.B., Dartmouth, 1944; M.D., State University of New York-Down State, 1946. (1976-)

CHARLES BURACK, M.Ed., Liaison and Clinical Instructor in Education. B.S., Worcester State College, 1951; M.Ed., 1952. (1972-)

- PAUL F. BURKE, JR., Ph.D., Assistant Professor of Classics. A.B., Stanford University, 1965; Ph.D., 1971.
- WARNER BURKE, Ph.D., Professor of Management, Department of Management Chairman. B.A., Furman University, 1953; M.A., University of Texas, 1961; Ph.D., 1963. (1976-)
- IAN BURTON, Ph.D., Professor of Geography (Affiliate). B.A., University of Chicago, 1951; Ph.D., 1962. (1972-)
- ANNE BUTTIMER, SISTER MARY ANNETTE, O.P., Ph.D., Associate Professor of Geography. B.A., National University of Ireland, 1957; M.A., 1959; Ph.D., University of Washington, 1965. (1971-)
- NELSON M. BUTTERS, Ph.D., Associate Professor of Psychology (Affiliate). A.B., Boston University, 1960; M.A., Clark University, 1962; Ph.D., 1964. (1971-)
- GEORGE CAMOUGIS, Ph.D., Professor of Physiology (Affiliate). B.S., Tufts College, 1952; A.M., Harvard University, 1957; Ph.D., 1958. (1958-)
- ROBERT F. CAMPBELL, Ph.D., Professor of American History. A.B., Yale University, 1939; A.M., Columbia University, 1940; Ph.D., 1947. (1946-1957, 1960-)
- VIRGINIA CARR, Ph.D., Assistant Professor of English. B.A., Occidental College, 1968; M.A., University of Michigan, 1970; Ph.D., 1972. (1976-)
- THOMAS G. CARROLL, Ph.D., Assistant Professor of Education. B.A., SUNY of Buffalo, 1967; M.A., 1973. (1975-)
- WILLIAM H. CARTER, JR., Ph.D., Professor of English; Department of English Chairman. A.B., Middlebury College, 1936; A.M., Harvard University, 1938; Ph.D., 1951. (1949-)
- GERALD R. CASTONGUAY, Ph.D., Assistant Professor of Music. B.Mus., Boston University, 1959; M.Mus., Hartt College of Music, 1963; M.A., Harvard University, 1965; Ph.D., Rutgers University, 1975. (1970-)
- R.J.O. CATLIN, M.B., L.R.C.G.P., Professor of Psychology (Affiliate). M.R.C.S., L.P.R.C.P., 1951; M.B.B.S., Guys Hospital Medical School, 1951; N.R.C.G.P., 1960; Diploma in Medical Jurisprudence, 1968; F.R.C.G.P., 1974. (1976-)
- LAIRD S. CERMAK, Ph.D., Associate Professor of Psychology (Affiliate). B.A., Ohio Wesleyan University, 1964; M.A., Ohio State University, 1965; Ph.D., 1968. (1973-)
- KANG-TSUNG CHANG, Ph.D., Assistant Professor of Geography and Cartography. B.S., National Taiwan University, 1965; M.A., Clark University, 1969; Ph.D., 1971. (1974-)
- ROBERT A. CIOTTONE, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Seton Hall University, 1963; M.A., University of Rochester, 1965; Ph.D., 1967. (1971-)
- LEONARD E. CIRÍLLO, Ph.D., Associate Professor of Psychology. B.A., City College of New York, 1958; M.A., Clark University, 1962; Ph.D., 1965. (1968-)
- SUSAN CLICKNER, B.Mus., Assistant Professor of Voice (Affiliate). B.Mus. in Voice, Indiana University, 1955; Diploma, Curtis Institute of Music, 1959. (1970-)
- MORRIS H. COHEN, Ph.D., Professor of Government. Representative, Washington Semester Program. A.B., University of Chicago, 1939; Ph.D., 1950. (1947-)
- SAUL B. COHEN, Ph.D., Professor of Geography; Adjunct Professor of Government and International Relations; Director of Graduate School of Geography. A.B., Harvard University, 1947; A.M., 1950; Ph.D., 1955. (1965-)
- M. MARGARET COMER, Ph.D., Assistant Professor of Molecular Biology. A.B., Harvard University, 1964; Ph.D., Purdue University, 1972. (1976-)
- GERARD T. CORCORAN, M.A., Registrar. B.A., University of Connecticut, 1957; M.A., 1961. (1966-)
- CAROLYN COTSONAS, J.D., Assistant Professor of Psychology (Affiliate), B.A., Jackson College, Tufts University, 1970; J.D., Harvard Law School, 1974. (1976-)
- SAMUEL P. COWARDIN III, Ph.D., Associate Professor of Art History. A.B., Harvard University, 1943; A.M., 1948; Ph.D., 1963. (1949-)
- EDWARD CLINE, Ph.D., Assistant Professor of Mathematics. B.S., California Institute of Technology, 1962; Ph.D., 1966. (1975-)

- JOSEPH C. CURTIS, Ph.D., Professor of Zoology. B.A., Cornell University, 1951; Ph.D., Brown University, 1960. (1963-)
- WILLIAM DAMON, Ph.D., Assistant Professor of Psychology. B.A., Harvard University, 1967; Ph.D., University of California, Berkeley, 1973. (1973-)
- MARY DANIELLI, Visiting Associate Professor. B.A., London, 1935; Higher Froebel Teacher's Certificate, Rachel Macmillan Training College, London, 1936; Diploma in Anthropology, Cambridge University, 1937. (1974-)
- ARNOLD DASHEVSKY, Ph.D., Lecturer in Jewish Studies. B.A., Temple, 1964; M.A., University of Minnesota, 1966; Ph.D., 1969. (1976-)
- JOHN A. DAVIES, Ph.D., Associate Professor of Physics. B.S., University of Maryland, 1953; M.S., 1954; Ph.D., 1960. (1963-)
- KENNETH S. DAVIS, M.S., Professor of English (Affiliate). B.S., Kansas State University, 1934; M.S., University of Wisconsin, 1935. (1976-)
- JOSEPH deRIVERA, Ph.D., Associate Professor of Psychology. B.A., Yale University, 1953; Ph.D., Stanford University, 1961. (1970-)
- PATRICK DERR, M.A., Assistant Professor of Philosophy. B.A., Seattle University, 1972. (1976-)
- SHANNON T. DEVOE, Ph.D., Research Associate in Psychology. B.A., Bennington College, 1961; M.A., Clark University, 1963; Ph.D., 1969. (1971-)
- MARVIN A. D'LUGO, Ph.D., Associate Professor of Spanish. B.A., Brooklyn College, 1965; M.A., University of Illinois, 1967; Ph.D., 1969. (1972-)
- JOHN H. DORENKAMP, JR., Ph.D., Professor of English at the College of the Holy Cross (Exchange Professor for Second Semester, 1976-77). A.B., St. Louis University, 1954; M.A., 1957; Ph.D., University of Illinois, Urbana, 1962.
- DENNIS DUCSIK, M.S., Assistant Professor of Physics. B.S., Massachusetts Institute of Technology, 1971; M.S., 1973.
- JAMES P. ELLIOTT, Ph.D., Assistant Professor of English. B.A., Stanford University, 1966; Ph.D., Indiana University, 1971. (1971-)
- CYNTHIA ENLOE, Ph.D., Associate Professor of Government and International Relations, Director of Graduate Program of Government and International Relations. B.A., Connecticut College, 1960; M.A., University of California, Berkeley, 1963; Ph.D., 1967. (1972-)
- KAREN L. ERICKSON, Ph.D., Associate Professor of Chemistry. B.S., Siena Heights College, 1960; Ph.D., Purdue University, 1964. (1965-)
- RACHEL FALMAGNE, Associate Professor of Psychology.
 License in Psychological Sciences, University of Brussels,
 1961; Docteur en Sciences and Psychologiques, 1967.
 (1973-)
- FREDERIC S. FAY, Ph.D., Associate Professor of Physiology (Affiliate). B.A., Cornell University, 1965; Ph.D., Harvard University, 1969. (1975-)
- STEPHEN FELDMAN, Ph.D., Assistant Professor of Geography. A.B., Rutgers University, 1968; M.A., Johns Hopkins University, 1971; Ph.D., The Hebrew University of Jerusalem, 1975. (1974-)
- DAVID A. FINKEL, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Boston University, 1961; M.S., University of Massachusetts, 1967; Ph.D., 1969. (1970-)
- THOMAS FISCHGRUND, M.A., Assistant Professor of Public Administration. B.A., Tufts University, 1970; M.A., New York University, 1972. (1976-)
- RICHARD B. FORD, Ph.D., Associate Professor of Comparative History, Co-Director of International Development and Social Change Program. B.A., Denison University, 1957; M.A.T., Yale University, 1959; Ph.D., University of Denver, 1966. (1968-)
- RONALD P. FORMISANO, Ph.D., Associate Professor of American History. B.A., Brown University, 1960; M.A., University of Wisconsin, 1962; Ph.D., Wayne State University, 1966. (1973-)

JOHN FREY, M.D., Associate Professor of Psychology. B.A., University of Notre Dame, 1966; M.D., Northwestern University School of Medicine, 1970. (1975-)

EVELYN FULLER, M.Mus., Assistant Professor of Piano (Affiliate). B. Mus., Oberlin Conservatory of Music, 1953;

M.Mus., 1954. (1967-

WESLEY M. FULLER, M.Mus., Associate Professor of Music. B.Mus., Oberlin Conservatory of Music, 1953; M.Mus., Boston University, 1958. (1963-

DOLORES GARCIA, Ph.D., Geography Affiliate. Lic., University of Barcelona, 1966; M.A., University of California, Berkeley, 1968; Ph.D., University of Barcelona, 1973. (1975-

STANFORD N. GERBER, Ph.D., Associate Professor of Social Anthropology and Sociology. B.A., University of Kansas City, 1955; M.A., 1957; Ph.D., University of Missouri, 1966. (1968-

ROBERT L. GOBLE, Ph.D., Visiting Assistant Professor of Physics and Science, Technology and Society. B.A., Swarthmore College, 1962; Ph.D., University of Wisconsin,

1967

MICHAEL GODLEY, Ph.D., Visiting Assistant Professor of History, B.A., Florida Presbyterian College, 1967; A.M.,

Brown University, 1969; Ph.D., 1973.

EMANUEL GOLDSMITH, Ph.D., Lecturer in Jewish Studies. B.A., City College of New York, 1956; B.H.L., Jewish Theological Seminary, 1957; M.H.L., 1960; Ph.D., Brandeis University, 1972. (1976-

HAROLD GOODGLASS, Ph.D., Professor of Psychology (Affiliate). A.B., College of the City of New York, 1939; A.M., New York University, 1948; Ph.D., University of Cincinnati,

1951. (1956-)

ALBERT M. GOTTLIEB, Ph.D., Assistant Professor of Physics, Adjunct Assistant Professor of Chemistry, B.S., Stevens Institute of Technology, 1965; M.S., Brandeis University, 1967: Ph.D., 1970, (1973-

HARVEY A. GOULD, Ph.D., Associate Professor of Physics, Department of Physics Chairman, B.A., University of California, Berkeley, 1960; Ph.D., 1966. (1971-)

ROCHELEAU Z. GRANGER, JR., A.M. in Ed., Director of Physical Education of Men. A.B., Clark University, 1938; A.M.

in Ed., 1969. (1942-)

STEVEN GRANT, Ph.D., Assistant Professor of Economics (Affiliate). B.S.B.A., Babson College, 1965; M.A., Northeastern University, 1967; Ph.D., Clark University, 1974.

SANTE GRAZIANI, M.F.A., Associate Professor of Art (Affiliate). B.F.A., Yale University, 1942; M.F.A., 1948. (1958-MARCEL GUT, Ph.D., Professor of Chemistry (Affiliate). Ph.D.,

University of Basel, 1947. (1972-

IAN D.K. HALKERSTON, Ph.D., Professor of Endocrinology (Affiliate). B.Sc., University of Reading, England, 1941; Ph.D., Boston University, 1960. (1967-)

TAMARA K. HAREVEN, Ph.D., Associate Professor of American History, B.A., Hebrew University, Jerusalem, 1960; M.A., University of Cincinnati, 1962; Ph.D., Ohio State University, 1965. (1969-

CHARLES W. HAYS, M.D., Assistant Professor of International Development (Affiliate). B.A., Oregon State College, 1963; M.D., University of Kansas Medical School, 1967; M.A., Harvard School of Public Health, 1973. (1975-

SERENA S. HILSINGER, Ph.D., Professor of English. A.B., Douglass College, Rutgers University, 1959; Ph.D., University

of Connecticut, 1964. (1962-)

ANTHONY W. HODGKINSON, Associate Professor of Film Studies; Associate Chairman for Film Studies Program in the Department of Visual and Performing Arts. Gaddesden College, England, (1972-

CHRISTOPH HOHENEMSER, Ph.D., Professor of Physics. B.A., Swarthmore College, 1958; Ph.D., Washington University (St.

Louis), 1963. (1971-

ELAINE M. HOLLAND, M.A., Lecturer in Education. B.A., University of Massachusetts, 1971; M.A., Clark University, 1972. (1976-)

RICHARD L. HOPKINS, M.A., Dean of the College of Professional and Continuing Education, Senior Lecturer in Management. B.A., University of Oklahoma, 1950; M.A., Ohio State University, 1952. (1975-

RICHARD A. HOWARD, Ph.D., Assistant Professor of Geography; Adjunct Assistant Professor of Biology. B.S., Iowa State University, 1962; M.S., University of California, 1965; Ph.D., University of Massachusetts, 1970. (1968-

DAVIS H. HOWES, Ph.D., Professor of Psychology (Affiliate). B.A., Yale University, 1946; Ph.D., Harvard University, 1951.

(1974-

ROBERT C. HSU, Ph.D., Associate Professor of Economics. B.A., National Taiwan University, 1960; M.A., Atlanta University, 1963; Ph.D., University of California, Berkeley, 1970. (1971-

KENNETH HUGHES, Ph.D., Associate Professor of German. B.A., Rutgers University, 1962; Ph.D., 1967. (1973-

MAYER HUMI, Ph.D., Associate Professer of Applied Mathematics. B.Sc., Hebrew University, Jerusalem, 1963; M.Sc., 1964; Ph.D., Weizmann Institute of Science, 1969.

IRVING HURWITZ, Ph.D., Professor of Psychology (Affiliate). A.B., Clark University, 1948; Ph.D., 1954.

(1974-

H. WILLIAM JOHANSEN, Ph.D., Associate Professor of Botany. B.A., San Jose State College, 1955; M.A., San Francisco State College, 1961; Ph.D., University of California, Berkeley, 1966. (1968-

DOUGLAS L. JOHNSON, Ph.D., Assistant Professor of Geography, B.A., Clark University, 1965; M.A., University of

Chicago, 1968; Ph.D., 1971. (1973-

SAMUEL E. JOHNSON, Ph.D., Assistant Professor of Zoology. B.S., Stanford University, 1966; Ph.D., 1972. (1973-)

ALAN A. JONES, Ph.D., Assistant Professor of Chemistry. B.A., Colgate University, 1966; Ph.D., University of Wisconsin, 1972. (1974-

HARTMUT M. KAISER, Ph.D., Associate Professor of German. Ph.D., Brown University, 1968. (1971-

BERNARD KAPLAN, Ph.D., Professor of Psychology. A.B., Brooklyn College, 1948; A.M., Clark University, 1950; Ph.D., 1953. (1953-

EDITH F. KAPLAN, Ph.D., Associate Professor of Psychology (Affiliate). B.A., Brooklyn College, 1949; M.A., Clark University, 1952; Ph.D., 1968. (1974-

GERALD J. KARASKA, Ph.D., Professor of Geography; Editor of Economic Geography. B.S., Pennsylvania State University, 1954; M.A., George Washington University, 1957; Ph.D., Pennsylvania State University, 1962. (1969-

ROGER E. KASPERSON, Ph.D., Professor of Government and Geography. A.B., Clark University, 1959; M.A., University of

Chicago, 1961; Ph.D., 1966. (1968-

ROBERT W. KATES, Ph.D., University Professor, Professor of Geography. A.M., University of Chicago, 1958; Ph.D., 1962. (1962-

THOMAS H. KEIL, Ph.D., Associate Professor of Physics (Affiliate). B.S., California Institute of Technology, 1961; Ph.D, University of Rochester, 1965. (1973-

DEBORAH KELLETT, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., University of Southern California, 1966; M.A., Harvard University, 1968; Ph.D., 1973. (1975-

HELEN J. KENNEY, Ed.D., Professor of Education, Department of Education Chairman. A.B., Emmanuel College, 1944; M.Ed., Boston College, 1953; Ed.D., Boston University, 1959. (1968-

JOHN F. KENNISON, Ph.D., Professor of Mathematics. B.S., Queens College, 1959; A.M., Harvard University, 1960; Ph.D.,

1963. (1963-

ROBERT W. KILMOYER, JR., Ph.D., Associate Professor of Mathematics; Department of Mathematics Chairman. B.A., Lebanon Valley College, 1961; Ph.D., Massachusetts Institute of Technology, 1969. (1966-)

DANIEL R. KILTY, Ph.D., Lecturer in Management. B.A., St. Anselm's College, 1954; M.A., University of Pennsylvania, 1958; Ph.D., Indiana University, 1965. (1969-)

J. FANNIN KING, M.A., Associate Professor of Romance Languages; Adviser to International Students. A.B., Pomona College, 1936; A.M., Harvard University, 1937. (1946-)

ARTHUR F. KINNEY, Ph.D., Professor of English (Affiliate). B.A., Syracuse University, 1955; M.S., Columbia University, 1956; Ph.D., University of Michigan, 1963. (1971-)

- JOSEPH KLEIN, D.D., Lecturer in Biblical Literature. B.A., Ohio State University, 1933; Rabbi and M.H.L., Hebrew Union College, Cincinnati, 1939; D.D., Hebrew Union College, New York City, 1963. (1969-)
- DAVID J. KNEELAND, M.A.Ed., Liaison and Clinical Instructor in Education. A.B., Clark University, 1949; M.A.Ed., 1950. (1972-)
- DUANE S. KNOS, Ph.D., Professor of Geography. B.A., Upper Iowa College, 1947; M.A., University of Iowa, 1953; Ph.D., 1956. (1970-)
- WILLIAM A. KOELSCH, Ph.D., Associate Professor of Geography and History; University Archivist. Sc.B., Bucknell University, 1955; A.M., Clark University, 1959; Ph.D., University of Chicago, 1966. (1963; 1967-)
- BARBARA C. KOHIN, Ph.D., Assistant Professor of Education (Affiliate). B.A., College of William and Mary, 1953; M.S., University of Maryland, 1957; Ph.D., 1960. (1967-1969, 1971-)
- ROGER P. KOHIN, Ph.D., Associate Professor of Physics. B.S.E.E., University of Notre Dame, 1953; Ph.D., University of Maryland, 1961. (1962-)
- SHARON KREFETZ, Ph.D., Assistant Professor of Government and International Relations. A.B., Douglass College, 1967; M.A., Brandeis University, 1970; Ph.D., 1975. (1972-)
- IRENE KRISKIJANS, Ph.D., Lecturer in Russian. B.A., University of Connecticut, 1963; M.A., Columbia University, 1966; Ph.D., Georgetown University, 1976. (1973-)
- DONALD W. KRUEGER, M.F.A., Associate Professor of Art; Associate Chairman for Art Program in the Department of Visual and Performing Arts. B.F.A., Kansas City Art Institute, 1950; M.F.A., 1952; M.S., Rhode Island School of Design, 1960. (1972-)
- WILLIAM C. KVARACEUS, Ed.D., Professor of Education and Sociology. A.B., Boston College, 1934; Ed.M., Harvard University, 1936; Ed.D., 1943. (1968-)
- JAMES D. LAIRD, Ph.D., Associate Professor of Psychology. B.A., Middlebury College, 1962; Ph.D., University of Rochester, 1966. (1966-)
- VIRGINIA LEGUIA, M.S., Assistant Professor of Music (Affiliate) (Flute). B.M., M.M., Juilliard School of Music. (1972-)
- BARBARA LEVY, B.M., Director of Choral Activities. B.M., University of Michigan, 1971. (1974-)
- LAURENCE A. LEWIS, Ph.D., Associate Professor of Geography. B.A., Antioch College, 1961; M.S., Northwestern University, 1963; Ph.D., 1964. (1970-)
- SARAH ROTH LIEBERMAN, Ph.D., Lecturer in Jewish Studies. B.A., Boston University, 1967; M.A., 1970; Ph.D., 1975. (1975-)
- JANE LILIENFELD, Ph.D., Visiting Lecturer in English. B.A., University of Maryland, 1966; M.A., University of Chicago, 1968; Ph.D., Brandeis University, 1975. (1975-)
- WARREN LITSKY, Ph.D., Professor of Microbiology (Affiliate).
 A.B., Clark University, 1945; M.S., University of
 Massachusetts, 1948; Ph.D., Michigan State University, 1951.
 (1967-)
- PAUL LUCAS, Ph.D., Associate Professor of European History. B.A., Brandeis University, 1955; M.A., Princeton University, 1957; Ph.D., 1963. (1969-)
- TIMOTHY A. LYERLA, Ph.D., Assistant Professor of Developmental Genetics. B.S., University of California, 1963; M.A., San Diego State College, 1967; Ph.D., Pennsylvania State University, 1970. (1971-)
- JAMES MACRIS, Ph.D., Professor of English and Linguistics.

- B.B.A., St. John's University, 1941; M.A., Teachers College, Columbia University, 1950; Ph.D., Columbia University, 1955. (1968-)
- GILBERT SCOTT MARKLE, Ph.D., Associate Professor of Philosophy (Affiliate). M.S., Rensselaer Polytechnic Institute, 1961; Doctorat D'Universite, University of Paris, 1963; Ph.D., Yale University, 1968. (1966-75; 1975-)
- ONKAR S. MARWAH, Ph.D., Assistant Professor of Government and International Relations. B.A., St. Xavier's College, University of Calcutta, 1956; B.Sc:, London School of Economics and Political Science, 1959; M.A., Yale University, 1967; Ph.D., University of California, 1976. (1974-)
- DOROTHY McCALL, Ph.D., Assistant Professor of French. B.A., University of Rochester, 1959; M.A., New York University, 1960; Ph.D., Columbia University, 1967. (1975-)
- MARCUS A. McCORISON, M.S., Lecturer in American History, Director of American Antiquarian Society. B.A., Ripon College, 1950; M.A., University of Vermont, 1951; M.S., Columbia University, 1954. (1967-)
- ELIAS MEYMARIS, Ph.D., Assistant Professor of Chemistry (Affiliate). B.S., Tufts University, 1959; Ph.D., Clark University, 1970. (1972-)
- HESSA MILLER, M.A., Clinical Instructor in Education. B.A., University of Buffalo, 1954; M.A., Syracuse University, 1970. (1972-)
- ALLAN F. MIRSKY, Ph.D., Professor of Psychology (Affiliate). B.S., City College of New York, 1950; M.S., Yale University, 1952; Ph.D., 1954. (1974-)
- HAROLD T. MOODY, Ph.D., Associate Professor of Economics and Management. B.S., University of California, Los Angeles, 1959; M.B.A., 1960; Ph.D., 1964. (1969-)
- ELEANOR R. MOOSEY, Ed.D., Assistant Professor of Education (Affiliate). Worcester State College, 1946; M.A., Boston University, 1948; Ed.D., 1963. (1970-)
- CATHERINE C. MOROCCO, Ed.D., Assistant Professor of Education. B.A., Pomona College, 1962; M.A.T., Harvard Graduate School of Education, 1963; Ed.D., 1973. (1976-
- LEONARD J. MORSE, M.D., Professor of Microbiology (Affiliate). B.A., American International College, 1951; M.D., University of Maryland, School of Medicine, 1955. (1976-)
- ALLAN MUELLER, Affiliate in Piano and Jazz Studies. (1971-DAVID J. MYERSON, M.D., Clinical Associate in Psychology. B.A., Harvard University, 1940; M.D., Tufts University, 1943. (1971-)
- LORENZO M. NARDUCCI, Ph.D., Professor of Physics (Affiliate). Ph.D., University of Milan, 1964. (1974-)
- DONALD JOHN NELSON, Ph.D., Assistant Professor of Chemistry, B.S., Rutgers University, 1967; Ph.D., University of North Carolina, 1972. (1975-)
- HOWARD W. NICHOLSON, Ph.D., Professor of Economics. A.B., Oberlin College, 1942; M.A., Harvard University, 1948; Ph.D., 1953. (1958-)
- GALE H. NIGROSH, M.A.T., Lecturer in French. B.A., Barnard College, 1968; M.A.T., Clark University, 1969. (1969-)
- EWA NOVOSIELSKA, Ph.D., Geography Affiliate. M.A., Warsaw University; Ph.D., 1972. (1974-)
- RUDOLPH F. NUNNEMACHER, Ph.D., Professor of Zoology; Department of Biology Chairman. B.S., Kenyon College, 1934; A.M., Harvard University, 1935; Ph.D., 1938. (1939-
- PHILLIP O'KEEFE, Ph.D., Visiting Assistant Professor of Geography. University of London.
- EDWARD L. O'NEILL, Ph.D., Professor of Physics (Affiliate). A.B., Boston College, 1949; M.A., Boston University, 1951; Ph.D., 1954. (1974-)
- MARLENE OSCAR-BERMAN, Ph.D., Associate Professor of Psychology (Affiliate). B.A., University of Pennsylvania, 1961; M.A., Bryn Mawr College, 1964; Ph.D., University of Connecticut, 1968. (1973-)
- TIMOTHY O'RIORDAN, Ph.D., Professor of Geography (Affiliate). M.A., University of Edinburgh, 1963; M.S., Cornell University, 1965; Ph.D., University of Cambridge, 1967. (1973-)

ATTIAT F. OTT, Ph.D., Professor of Economics. B.A., Cairo University, 1956; Ph.D., University of Michigan, 1962. (1969-)

GARY E. OVERVOLD, Ph.D., Associate Professor of Philosophy. A.B., St. Olaf College, 1962; Ph.D., Claremont Graduate

School, 1965. (1969-)

JANE OYARZUN, Ph.D., Visiting Assistant Professor of Spanish. B.A., University of New Hampshire, 1963; M.A., University of Illinois, 1965; Ph.D., 1971.

- RICHARD P. PALMIERI, Ph.D., Visiting Assistant Professor of Geography. B.S., State College, Boston, 1966; M.A., University of Texas, Austin, 1969; Ph.D., University of California, Davis, 1976.
- J.E. PARSONS, Ph.D., Associate Professor of English. A.B., Kenyon College, 1958; Ph.D., University of Rochester, 1964. (1975-)
- SIDNEY PECK, Ph.D., Associate Professor of Sociology. B.A., University of Minnesota, 1949; M.S., University of Wisconsin, 1951; Ph.D., 1959. (1973-)
- J. RICHARD PEET, Ph.D., Associate Professor of Geography. B.Sc., University of London, 1961; M.A., University of British Columbia, 1963; Ph.D., University of California, Berkeley, 1968. (1967-)
- VICTOR H. PENTLARGE, M.D., Psychiatry Consultant to the Psychological Services Center. B.A., Harvard University, 1949; M.D., Harvard Medical School, 1953. (1958-)
- FERNAND G. PERON, Ph.D., Professor of Biochemistry (Affiliate); Director of Steroid Training Program. B.Sc., Sir George Williams University, 1946; M.Sc., McGill University, 1950; Ph.D., 1953. (1967-)
- JAMES PERRY, Ph.D., Assistant Professor of Computer Science (Affiliate). B.S., College of the Holy Cross, 1964; M.A., Indiana University, 1966; M.S., Worcester Polytechnic Institute, 1971, Ph.D., University of Connecticut, 1975.

LAWRENCE E. PETERSON, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Lehigh University, 1965; M.S., University of Pittsburgh, 1967; Ph.D., 1970. (1970-)

- RICHARD W. PIERSON, A.M., Director of Admissions. A.B., Marietta College, 1956; A.M., Clark University, 1961. (1965-
- MARK S. PLOVNICK, Ph.D., Assistant Professor of Management. B.A., Union College, 1968; S.M., Massachusesetts Institute of Technology, Sloan School of Management, 1970; Ph.D., 1974. (1976-)

STANLEY J. POREDA, JR., Ph.D., Associate Professor of Mathematics. B.S., Stevens Institute of Technology, 1965; Ph.D., University of Maryland, 1970. (1970-)

- SPENCER R. POTTER, Ed.D., Lecturer in Education; Director of Career Planning and Placement. B.S., University of Massachusetts, 1942; M.A. in Ed., Clark University, 1959; Ed.D., 1968. (1964-)
- DAVID B. PRIOR, Ph.D., Visiting Associate Professor of Geography. B.A., The Queen's University of Belfast, 1966; Ph.D., 1968. (1976-)
- FRANK W. PUFFER, Ph.D., Associate Professor of Economics; Dean of Academic Affairs. B.S., Brown University, 1960; Ph.D., 1965. (1968-)
- ALEXANDER J. RADZIK, Ed.M., Liaison and Clinical Instructor in Education. A.B., Clark University, 1946; Ed.M., Boston University, 1949. (1969-)
- DIANA RAFFMAN, B.A., Assistant Professor of Flute (Affiliate). B.A., Yale University, 1975. (1976-)
- RELLY RAFFMAN, A.M., George N. and Selma U. Jeppson Professor of Music; Department of Visual and Performing Arts Chairman. A.B., Dartmouth College, 1943; A.M., Columbia University, 1949. (1954-)
- KNUD RASMUSSEN, Ph.D., Associate Professor of Government and International Relations. B.A., Copenhagen University, 1953; M.A., Cornell University, 1960; Ph.D., Rutgers University, 1964. (1966-)
- MIRIAM RAVIV, B.A., Lecturer in Hebrew. B.A., Teachers College, Israel, 1954. (1972-)
- JUDITH REHMER, M.A., Assistant Professor of Geology. B.S.,

- University of Illinois, 1969; M.A., Harvard University, 1970. (1975-)
- HAROLD REISS, M.D., Clinical Associate in Psychology. M.D., Boston University School of Medicine, 1956. (1974-)
- JOHN T. REYNOLDS, Ph.D., Professor of Microbiology. B.S., Boston College, 1961; M.S., University of Massachusetts, 1954; Ph.D., 1962. (1956-)
- JEFFREY ROSEN, Ph.D., Associate Professor of Psychology (Affiliate). B.A., George Washington University, 1964; M.A., Clark University, 1968; Ph.D., 1971. (1974-)
- HERBERT ROSENBLUM, Ph.D., Lecturer in Jewish History. B.A., Yeshiva College, 1950; Rabbi, M.H.L., Jewish Theological Seminary of America, 1954; Ph.D., Brandeis University, 1970. (1972-)

HARRIS ROSENKRANTZ, Ph.D., Professor of Biochemistry (Affiliate). A.B., Brooklyn College, 1943; M.S., New York University, 1946; M.S., Cornell Medical College, 1948; Ph.D., Tufts Medical School, 1952. (1959-)

ROBERT J. ROSS, Ph.D., Assistant Professor of Sociology, Department of Sociology Chairman. B.A., University of Michigan, 1963; M.A., University of Chicago, 1966; Ph.D., 1975. (1972-)

KAREN SACKS, Ph.D., Assistant Professor of Sociology. A.B., Brandeis University, 1963; M.A., Harvard University, 1964; Ph.D., University of Michigan, 1971. (1976-)

EDWARD E. SAMPSON, Ph.D., Professor of Sociology; Adjunct Professor of Psychology. B.A., University of California, Los Angeles, 1956; Ph.D., University of Michigan, 1960. (1971-)

MARČIA A. SAVAGE, Ed.D., Assistant Professor of Education; Dean of the College. A.B., Clark University, 1961; M.A., 1962; Ed.D., 1966. (1964-)

WALTER SCHATZBERG, Ph.D., Professor of German;
Department of Foreign Languages and Literatures Chairman.
B.A., St. John's College, Maryland, 1954; M.A., The Johns

Hopkins University, 1957; Ph.D., 1966. (1966-)
JOSEPH SCHMULLER, Ph.D., Assistant Professor of
Psychology. B.S., Brooklyn College, 1967; M.A., University of
Missouri, Kansas City, 1970; Ph.D., University of Wisconsin,
1975. (1975-)

NEIL R. SCHROEDER, Ph.D., Associate Professor of Theatre Art A.B., Brown University, 1952; Ph.D., Yale University, 1962. (1960-)

ANN T. SCHULZ, Ph.D., Associate Professor of Government and International Relations. B.A., Miami University (Ohio), 1958; M.A., Yale University, 1964; Ph.D., 1969. (1976-)

HARRY E. SCHWARZ, B.C.E., Visiting Professor of Environmental Affairs; Adjunct Professor of Geography. B.C.E., George Washington University, 1954. (1973-)

ANN SEIDMAN, Ph.D., Professor of International Development (Affiliate). B.S., Smith College, 1947; M.S., Columbia University, 1953; Ph.D., University of Wisconsin, 1968.

DON M. SHAKOW, Ph.D., Assistant Professor of Economics. B.S., Massachusetts Institute of Technology, 1962; Ph.D., University of California, 1972. (1976-)

DAVID SHARON, Ph.D., Professor of Geography (Affiliate).
M.Sc., Hebrew University of Jerusalem, 1961; Ph.D., 1965.
(1972-)

ROBERT G. SHERMAN, Ph.D., Associate Professor of Physiology. B.S., Alma College, 1964; M.S., Michigan State University, 1967; Ph.D., 1969. (1971-)

ROBERT B. SHILKRET, Ph.D., Research Associate in Psychology (Affiliate). B.A., The Johns Hopkins University, 1965; M.A., Clark University, 1970; Ph.D., 1974. (1974-)

CAROL SICA, M.F.A., Associate Professor of Theatre Art; Associate Chairman for Theatre Art Program in the Department of Visual and Performing Arts. B.A., Hofstra University, 1963; M.F.A., Yale University, 1966. (1976-)

ALAN C. SIMPSON, B.S., Lecturer in Management. B.S., University of New Hampshire at Durham, 1973. (1975-

CHARLES H. SLATKIN, M.F.A., Lecturer in Film/Video Production. B.A., Clark University, 1974; M.F.A., Rochester Institute of Technology, 1976. (1976-)

- MICHAEL SOKAL, Ph.D., Associate Professor of History of Science and Technology (Affiliate). B. of Engineering, The Cooper Union, 1966; M.A., Case Western Reserve University, 1970; Ph.D., 1972. (1975-)
- NORMAN SONDAK, D.Eng., Professor of Mathematics (Affiliate). B. of Engineering, City University of New York, 1953; M.S., Northwestern University, 1954; D.Eng., Yale University, 1958. (1969-)

CATHERINE Q. SPINGLER, M.A., Lecturer in French. B.A., University of Michigan, 1960; M.A., 1964. (1973-)

- MICHAEL K. SPINGLER, Ph.D., Associate Professor of French. B.A., Dartmouth College, 1959; M.A., University of Pittsburgh, 1961; Ph.D., 1966. (1972-)
- BHAMA SRINIVASAN, Ph.D., Associate Professor of Mathematics. B.A., University of Madras, India, 1954; M.S., 1955; Ph.D., University of Manchester, England, 1959. (1970-)
- ELIZABETH STANKO, Ph.D., Assistant Professor of Sociology. B.A., City University of New York, 1972.
- DONALD G. STEIN, Ph.D., Professor of Psychology. B.A., Michigan State University, 1960; M.A., 1962; Ph.D., University of Oregon, 1965. (1966-)
- DAVID A. STEVENS, Ph.D., Associate Professor of Psychology. A.B., University of California, Berkeley, 1954; M.A., University of Oregon, 1963; Ph.D., 1965. (1965-)
- RONALD D. STORY, Ph.D., Visiting Assistant Professor of History. B.A., University of Texas, 1963; M.A., University of Wisconsin, 1968; Ph.D., State University of New York, 1972.
- JOHN S. STUBBE, Ph.D., Associate Professor of Mathematics. B.S., University of New Hampshire, 1941; M.S., Brown University, 1942; Ph.D., University of Cincinnati, 1945. (1949-)
- STANLEY SULTAN, Ph.D., Professor of English. A.B., Cornell University, 1949; A.M., Boston University, 1950; Ph.D., Yale University, 1955. (1959-)
- DAVID SUSSMAN, B.A., Assistant Professor of Guitar (Affiliate). B.A., State University of New York at Buffalo, 1973. (1975-)
- DAVID TEPPER, Ph.D., Assistant Professor of Mathematics. A.B., Temple University, 1964; M.A., 1966; Ph.D., 1969. (1973-)
- NICHOLAS S. THOMPSON, Ph.D., Associate Professor of Psychology; Adjunct Associate Professor of Biology. B.A., University of California, Berkeley, 1961; Ph.D., 1966. (1970-
- WILLIAM E. TOPKIN, Ed.D., Assistant Professor of Education, Dean of Students. A.B., Clark University, 1960; M.A., 1963; Ed.D., 1967. (1964-)
- EDWARD N. TRACHTENBERG, Ph.D., Professor of Chemistry. A.B., New York University, 1949; A.M., Harvard University, 1951; Ph.D., 1953. (1958-)
- GERHARD TSCHANNERL, Ph.D., Geography Affiliate. M.Sc., The Johns Hopkins University, 1966; M.A., Harvard University, 1968; Ph.D., 1970. (1972-)
- INA C. UZGIRIS, Ph.D., Professor of Psychology. B.S.,
 University of Illinois, 1957; M.A., 1960; Ph.D., 1962. (1966-
- ROGER C. VAN TASSEL, Ph.D., Professor of Economics; Department of Economics Chairman. A.B., Union College,

- 1947; A.M., Cornell University, 1950; Ph.D., Brown University, 1956. (1954-)
- EMIEL C. VEENDORP, Ph.D., Professor of Economics. B.A., University of Groningen, The Netherlands, 1960; Ph.D., Rice University, 1963. (1976-)
- WILLIAM VOGEL, Ph.D., Professor of Psychology (Affiliate). B.A., Wesleyan University, 1955; M.A., Clark University, 1957; Ph.D., 1959. (1954-)
- THEODORE H. VON LAUE, Ph.D., Jacob and Frances Hiatt Professor of European History. B.A., Princeton University, 1939; Ph.D., 1944. (1970-)
- MARY CLARE WALSH, Ph.D., Clinical Associate in Psychology (Affiliate). B.S., Catholic University, 1965; M.A., Clark University, 1967; Ph.D., 1974. (1974-)
- RICHARD WALTON, M.D., Professor of Psychology (Affiliate). B.A., Queens University School of Liberal Arts (Kingston, Ontario, Canada), 1959; M.D., Queens University Medical School, 1961. (1975-)
- SEYMOUR WAPNER, Ph.D., G. Stanley Hall Professor of Genetic Psychology; Department of Psychology Chairman. A.B., New York University, 1939; A.M., University of Michigan, 1940; Ph.D., 1943. (1948-)
- RICHARD A. WARRICK, Ph.D., Visiting Assistant Professor of Geography. B.A., University of California, 1970; M.A., University of Colorado, 1972; Ph.D., 1975.
- MAURICE D. WEINROBE, Ph.D., Associate Professor of Economics. B.S., Bradley University, 1964; Ph.D., Cornell University, 1969. (1976-)
- JERALD A. WEISS, Ph.D., Professor of Physics (Affiliate). B.A., Ohio State University, 1949; Ph.D., 1953. (1973-1974, 1975-)
- WEN-YANG WEN, Ph.D., Professor of Chemistry. B.S., National Taiwan University, 1953; Ph.D., University of Pittsburgh, 1958. (1962-)
- JOHN WHITESIDE, Ph.D., Assistant Professor of Psychology. B.A., Brown University, 1968; Ph.D., University of Rochester, 1972. (1972-)
- MORTON WIENÉR, Ph.D., Professor of Psychology. B.S., S.S., City College of New York, 1949; M.S.Ed., 1950; Ph.D., University of Rochester, 1953. (1957-)
- RUDOLPH WINSTON, JR., D.B.A., Lecturer in Management. A.B., Haverford College, 1954; M.B.A., Columbia Graduate School of Business, 1960; D.B.A., Harvard Business School, 1975. (1976-)
- WALTER WRIGHT, Ph.D., Associate Professor of Philosophy. B.A., Yale University, 1965; M.A., Vanderbilt University, 1967; Ph.D., 1971. (1968-)
- JANG H. YOO, Ph.D., Assistant Professor of Economics. B.A., Seoul National University, 1963; M.A., University of California, Los Angeles, 1969; Ph.D., Texas A&M University, 1972. (1973-)
- DAVID ZERN, Ph.D., Associate Professor of Education; Adjunct Associate Professor of Psychology. B.A., Harvard University, 1962; Ed.M., 1964; Ph.D., 1969. (1971-)
- EDGAR B. ZURIF, Ph.D., Assistant Professor of Psychology (Affiliate). B. Engineering, 1961; M.Sc., McGill University, 1964; Ph.D., University of Waterloo, 1967. (1974-)

Faculty Committees 1976-1977

ADMISSIONS (no terms)

Anderson, K.	English
Curtis, J.	Biology
Manon	Acces Do

Assoc. Dean of Students, ex officio Pierson, R. Director of Admission, ex officio Dean of the College, ex officio Savage, M. *Spingler, M. Foreign Languages
Topkin, W. Dean of Students, ex officio

Trachtenberg, E. Chemistry

COLLEGE BOARD

	·	erm Expires
Appley, M.	President, ex officio	
Cirillo, L.	Psychology	1977
Corcoran, G.	Registrar, ex officio	
Cowardin, S.	Visual and Performing Arts	1979
Kohin, R.	Physics	1978
Krefetz, S.	Government	1976
*Mason, I.	Assoc. Dean of Students, ex official	0
Savage, M.	Dean of the College, ex officio	
*Topkin, W.	Dean of Students, ex officio	

COMMITTEE ON PERSONNEL

Appley, M.	President, ex officio	
*Andersen, R.	Physics	1978
Beck, R.	Philosophy	1979
Berry, L.	Dean of Grad. School, ex officio	
Borg, D.	History	1979
Enloe, C.	Government	1978
Kaplan, B.	Psychology	1977
Kasperson, R.	Geography	1978
Puffer, F.	Dean of Acadm. Affairs, ex officio	
Schatzberg, W.	Foreign Languages	1977
Sherman, R.	Biology	1979
Wright, W.	Philosophy	1977

COMPUTER ADVISORY

Brenner, D.	Chemistry	1978
*Howard, R.	Biology	1976
Karaska, G.	Geography	1976
Landry, L.	Vice Pres. for Bus. and Finance, ex offic	io
Larson, A.	Director of Computer Center, ex officio	
Ott, A.	Economics	1977
Puffer, F.	Dean of Acadm. Affairs, ex officio	
Whiteside, J.	Psychology	1978
Vacancy	, , ,	1978

FINANCIAL AID (no terms)

Howard, R.	Biology
Keith, R.	Director of Financial Aid, ex officio
Landry, L.	Vice Pres. for Bus. and Finance, ex officio
Mason, I.	Assoc. Dean of Students, ex officio
Savage, M.	Dean of the College, ex officio
Stein, D.	Psychology
Stevens, D.	Psychology
Topkin, W.	Dean of Students, ex officio
Vacancy	,

NOMINATING		Term Expires
Brenner, D.	Chemistry	1979
Brink, J.	Biology	1978
Damon, W.	Psychology	1979
Laird, J.	Psychology	1979
Overvold, G.	Philosophy	1977
Reynolds, J.	Biology	1979
Sampson, E.	Sociology	, 1977
Spingler, M.	Foreign Languages	1979
Trachtenberg, E.	Chemistry	1979

RESEARCH BOARD

Beard, J. *Berry, L.	English Research Coordinator, ex officio	1977
Billias, G.	History	1977
	Chemistry	1976
Kates, R.	Geography	1977
Krueger, D.	Fine Arts	1976
Allen, H.	Chemistry	1978

STEERING Appley, M.

Brenner, D. (secretary)	Chemistry	1979
Brink, J.	Biology	1978
Berry, L.	Dean of Grad. School, ex officio	
Damon, W.	Psychology	1979
*Laird, J.	Psychology	1979
Overvold, G.	Philosophy	1977
Puffer, F.	Dean of Acadm. Affairs, ex officio	
Sampson, E.	Sociology	1977
Savage, M.	Dean of the College, ex officio	
Spingler, M.	Foreign Languages	1977
Topkin, W.	Dean of Students, ex officio	
Trachtenberg, E.	Chemistry	1979
(parliamentarian)		

President, ex officio

UNDERGRADUATE ACADEMIC BOARD

D'Lugo, M.	Foreign Languages	1978
Hohenemser, C.	Physics	1977
Johnson, D.	Geography (for Moody)	1977
Kenney, H.	Education	1977
Lyerla, T.	Biology	1978
*Savage, M.	Dean of the College, ex officio	
Sultan, S.	English	1976

UNIVERSITY COUNCIL

Stockwell, D.

Faculty Assembly Anderson, A. Appley, M. Beck, R. Sherman, R.	Philosophy President Philosophy Biology	1977 1979 1978
Graduate Board Allen, H.	Chemistry	1979
COPACE Hopkins, R.	Dean of COPACE	1977
Staff Kidd, R. Petty, J.	Business Manager Accounting	

Buildings & Grounds

Berry, L.	Dean of Graduate School, rotating
Landry, L.	Vice Pres. for Bus. and Finance
Puffer, F.	Dean of Acadm. Affairs, rotating
Savage, M.	Dean of the College, rotating

FACULTY REVIEW COMMITTEE		Term Expires
Ahmadjian, V.	Biology	1977
Blinderman, C.	English	1978
Cirillo, L.	Psychology	1979
Hilsinger, S.	English	1979
Kennison, J.	Mathematics	1978

LIBRARY

Barron, T.	Librarian, ex officio	
*Hilsinger, S.	English	1976
Lyerla, T.	Biology	1977
Von Laue, T.	History	1978

^{*}Chairman

The Corporation

OFFICERS

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144 DIRECTORIES

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Director of Admissions

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Director of Financial Aid

Graduate School Affairs: Mr. Leonard Berry

Dean of the Graduate School

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Director of Alumni Affairs

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Registrar

Career Planning and

Placement

Mr. Spencer Potter Director of Career Planning and Placement

University Address: 950 Main Street

Worcester, Massachusetts

01610

University Telephone: Area Code 617

Telephone 793-7711

Academic Calendar 1976-1977

FALL SEMESTER

Thursday, September 9

Registration for continuing and readmitted undergraduate and graduate students.

Friday, September 10 First day of classes.

Monday, September 27 — Tuesday, September 28

Final registration for all students.

Monday, October 4

Last day to submit applications to Registrar's Office for degrees to be awarded 1/21/77.

Friday, October 29

Mid-semester break begins after last class.

Wednesday, November 3

Classes resume.

Thursday, November 25

Thanksgiving vacation. Monday, November 29

Classes resume.

Thursday, December 16

Last day of classes.

Friday, December 17

Reading day.

Saturday, December 18 — Wednesday, December 22

Fall examinations.

Wednesday, December 22

Christmas vacation begins after last exam.

SPRING SEMESTER

Monday, January 10

Registration for all students.

Tuesday, January 11

First day of classes.

Friday, January 21

Commencement (for students completing degree requirements in the fall).

Monday, January 24 — Tuesday, January 25

Final registration for all students.

Monday, February 21

Last day to submit applications to Registrar's Office for degrees to be awarded 5/8/77.

Friday, February 25

Spring vacation starts after last class.

Monday, March 7

Classes resume.

Thursday, April 21

Last day of classes.

Friday, April 22 — Sunday, April 24

Reading days.

Monday, April 25 - Friday, April 29

Spring examinations

Sunday, May 8

Commencement.

MODULAR TERM

Monday, May 9

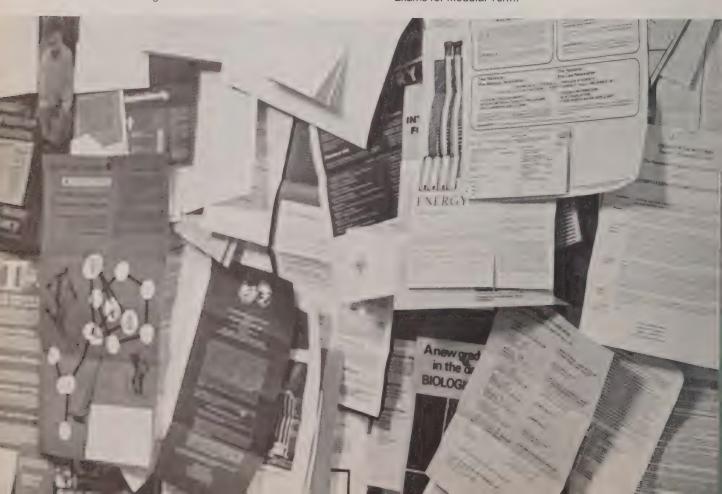
Registration and first day of classes.

Thursday, June 23

Last day of classes.

Friday, June 24 — Saturday, June 25

Exams for Modular Term.



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Clark University

The New England Association of Colleges and Secondary Schools accredits schools and colleges in the six New England states. Membership in one of the six regional accrediting associations in the United States indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators. Colleges support the efforts of public school and community officials to have their secondary school meet the standards of membership.

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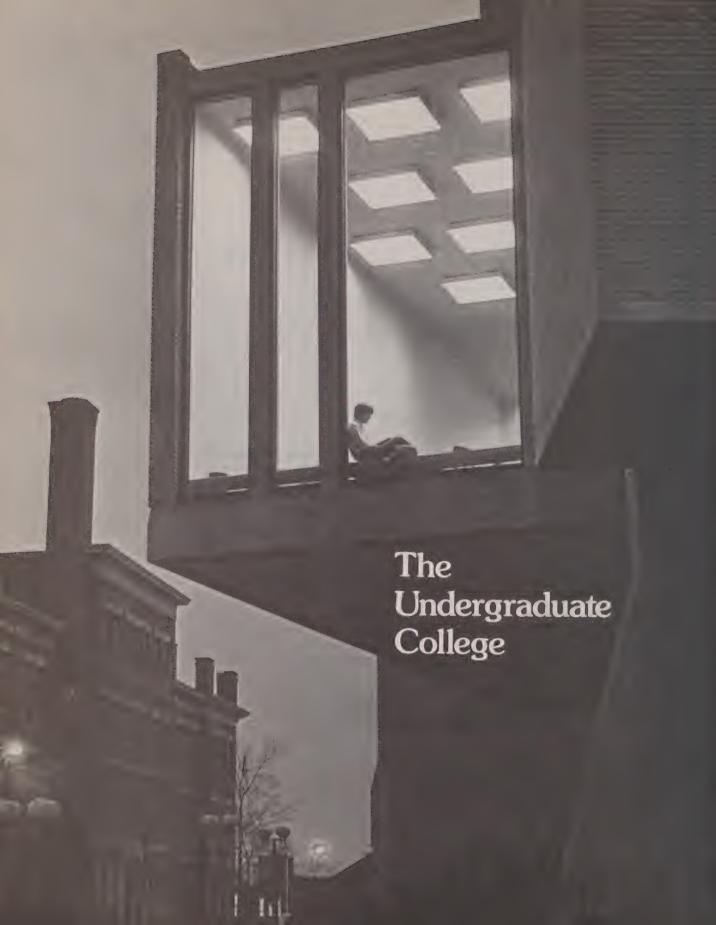
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THE UNIVERSITY-COLLEGE

The role of Clark University in undergraduate education is defined by its position as a small college dedicated to advanced learning within the context of the University. The University's emphasis upon intellectual and scholarly achievement and the extensive resources of its nationally recognized Graduate School provide unique advantages for the college. The university-college concept seeks to integrate graduate and undergraduate education and to translate the high standards of the Graduate School for the University as a whole.

Thus, the university-college makes the undergraduate experience more closely related to, or extending into, the graduate experience. The ultimate goal of the university-college is to develop persons characterized by such qualities as intellectual competence, personal maturity, well-developed skills in analysis, communication, critical thinking, and perhaps most importantly — the capacity to work independently; that is, to be autonomous learners. Thus, programs are structured in such a way that students will take increasing responsibility for their own learning.

In the spring of 1973, the University adopted the concept of the university-college as the ideal toward which all undergraduate academic planning and program development should be directed.

Clark University is uniquely qualified to develop such an undergraduate educational experience, and has pledged itself to do so. From its beginning, Clark has emphasized what its founding President, G. Stanley Hall, called "elbow teaching," the close personal relationship between student and faculty member, along with a dedication to excellence in teaching and research by its faculty, and the involvement of its students in all aspects of the intellectual life of the University.

The college embraces the normal four undergraduate years and results in the B.A. degree or, if the student chooses and is accepted into an integrated undergraduate-graduate program, an M.A. degree.

INTRODUCTORY PROGRAM

The Introductory Program currently in the final stages of planning, is considering such issues as the need for introductory courses within the context of the various departmental and interdepartmental programs, the different backgrounds and needs of individual students, the need for courses which bridge disciplinary perspectives, the issue of academic acceleration into the Program of Advanced Studies, the development of specific skills, advisory systems, and means for redefining career and educational objectives.

PROGRAM OF ADVANCED STUDIES

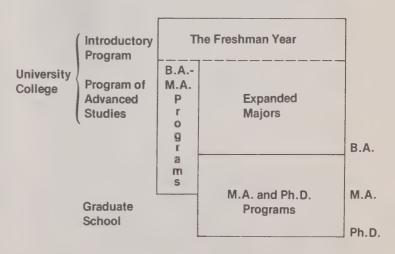
The Program of Advanced Studies leads to either the B.A. or M.A. degree and is composed of two major tracks. The expanded major involves study in the various departmental and interdepartmental programs of the

college and results in the B.A. degree. The expanded major is not a departmental major in the traditional sense. Rather, it is a program of study which is anchored in a particular discipline but specifically builds in courses in related disciplines as an integral part of the major. Each major, therefore, becomes interdisciplinary in design. (In addition to prescribing minimal requirements for the new major, each department has been asked to design programmatic options within the enlarged scope. This concept recognizes the need for depth of knowledge, and speaks to this issue by acknowledging that intensive work in a major field is the core of the undergraduate experience. However, it also acknowledges that breadth of knowledge must be maintained as well, and yet that it can be achieved more meaningfully in other ways than through prescribed University-wide distribution requirements. Particular attention is placed on the coherence of the major program to others within the University, capstone experiences which encourage closure and reflection, and early research opportunities.)

Ordinarily, multiple tracks within the major will be provided. A student will take from 50 to 80 per cent of his or her studies during the Program of Advanced Studies in the expanded major. This greater focus over the last three years will permit greater depth and sophistication in the student's chosen field of study.

Integrated undergraduate-graduate programs constitute the second track of the Program of Advanced Studies and lead to the M.A. degree. Enrollment in these programs is limited and requires formal admission. This ordinarily occurs at the end of the first year in the Program of Advanced Studies. These programs tend to be interdisciplinary in nature and have a strong career orientation. Over time, a network of such programs will become available to students in the university-college.

The structure of the university-college may be expressed graphically as follows:



The Academic Programs

DEPARTMENTAL MAJORS

Within the Program of Advanced Studies, a student may major in biology, chemistry, economics, English, foreign languages (the foreign languages major is designated: in French, in German, in Spanish, in Romance Languages, or in foreign languages according to the program chosen), geography, government, history, international relations, mathematics, music, philosophy, physics, psychology, or sociology. An interdepartmental major in Science, Technology and Society is also available. A major in studio arts is offered through a cooperative program with the School of the Worcester Art Museum. A major in theatre art is offered through a coordinate program sponsored by Clark University, the College of the Holy Cross, and Assumption College. Courses in Black studies, classics, geology, management, criminal justice, Jewish studies, Russian, and women's studies are offered, but departmental majors are not available.

INTEGRATED GRADUATE-UNDERGRADUATE PROGRAMS

The University recently inaugurated several new integrated undergraduate-graduate programs. These programs ordinarily begin during the junior year, continue for a period of approximately three years, and result in an M.A. degree. Clark undergraduate students and transfer students both are eligible for these programs and must apply for admission to them. Formal application to the Graduate School is required after a given period in the program. The newly approved programs are comparative literature, environmental affairs, and international development.

STUDENT-DESIGNED MAJORS

Any student can design his or her own major which focuses on a systematic body of knowledge not within the bounds of existing majors or departments. The student, with the advice of an advisory committee of three faculty members, will establish the major program which must then be approved by the Undergraduate Academic Board. Such majors must include a balance between upper and lower division courses and must be approved no later than the start of the second semester of the junior year. The senior year includes the satisfactory completion of some specific work (e.g., senior thesis, an internship experience, senior tutorial) intended to integrate courses in the major and to demonstrate accomplishment. Within past years, students have designed majors in such areas

as Urban Studies, Film Studies, Women's Studies, and Education and the Community.

DECLARATION OF THE MAJOR

The central role of the expanded major in the B.A. degree attaches considerable importance to the declaration of the major. A student must declare his or her intent to major in one of several departments no later than the start of the second semester, sophomore year. Changes in major after this point are possible but may prolong the undergraduate experience. Students are encouraged to seek faculty advice and give careful attention to their future program of study during the freshman year.

UNDERGRADUATE PROGRAMS

Freshmen and sophomores may choose any course designated by the department as open to them.

Freshmen and sophomores are admitted to courses designated by numbers with the numeral 2 only with permission of the instructor and the department chairperson concerned, to whom the student must present evidence of high class standing and/or adequate preparation.

Juniors and seniors may elect any courses designated by numbers beginning with 1 or 2, indicating respectively courses which are primarily for undergraduates or for advanced undergraduates and graduate students. The selection by juniors and seniors of these courses is subject to any conditions stated in the course description.

Undergraduates may be admitted to courses designated by numbers beginning with the numeral 3 (indicating courses which are primarily for graduate students) with the approval of the Dean of the Graduate School.

COLLOQUIA ON THE LIBERAL ARTS

This program is open to all students on a volunteer non-credit basis. Groups of twelve to fifteen students will meet with individual faculty members to discuss such issues as: the relevance and meaning of a liberal arts education, the inter-relatedness of knowledge. Each semester these colloquia will be supplemented by a convocation series whose speakers shall address a particular theme of interest to the community as a whole. Inquiries about this program should be directed to the Dean of the College.

DIRECTED READINGS AND SPECIAL PROJECTS COURSES

Most departments offer directed readings or special projects courses which may be entered with the permission of the instructor concerned. Directed readings courses comprise a sequence of structured readings on a given topic approved and directly supervised by the

instructor. Special projects courses involve independent research by the student on a particular problem, as in laboratory work or field study. Both types of courses are offered for variable course credit but not to exceed a full course except by petition to the College Board. The number of course credits awarded on the basis of work performed is determined at the end of the course. Students may take up to two full course credits in Directed Readings, Special Projects, or some combination of the two in a given one-semester period. There is no limit on the total number of such courses which may be counted toward the B.A. degree.

THE MODULAR TERM

The Modular Term is an extension of the normal academic year at Clark University. Registration is optional and open to all Clark students as well as to qualified non-Clark students. This seven-week term provides a wide selection of normal departmental and interdepartmental course offerings supplemented by a number of special programs and academic opportunities unavailable during the fall and spring semesters.

It is possible, for example, to take a full year of a foreign language in this seven-week term. International field study and internship opportunities are also available.

The faculty is composed of the resident Clark faculty and invited visiting lecturers from other institutions and the Worcester community. A variety of recreational and extra-curricular activities are also an integral part of the program.

Currently, Clark students may accelerate their academic program by taking courses in the Modular Term. Clark students who have registered for four full courses throughout semesters one and two may receive a 20 per cent reduction on tuition to the Modular Term. In addition. Clark University dorm students may receive free dormitory accommodations during the Modular Term, while Clark off-campus students may receive a reduced rate for dormitory space during the Modular Term.

A catalog listing course offerings for the Modular Term is available in the spring.

THE EXTENDED UNIVERSITY

Since Clark is a member of the Worcester Consortium for Higher Education, students may enroll for one course each semester at either Anna Maria College, Assumption College, the College of the Holy Cross, Worcester Polytechnic Institute, Worcester State College, University of Massachusetts Medical School, and Becker, Quinsigamond, and Worcester Junior Colleges.

Over four thousand students have cross-registered under the Consortium arrangement since 1968. Through the "extended University" then, Clark students immediately have available to them increased programs and course options. All of this is available at no extra charge to the students or their home institution.

Students from Holy Cross, Worcester Polytechnic Institute, and Clark University have worked together on a water pollution project. Consortium students have been involved in a lead-paint testing program. Engineering students from Worcester Polytechnic Institute, Massachusetts Medical School, and Quinsigamond Community College have worked with Clark students as a research unit for the Worcester Department of Public Health to conduct an infectious disease study. A health studies option which arranges student internships in health care organizations and internships with research scientists in laboratory settings, is available through the "extended University" as defined by the Worcester Consortium. A music option organized by the Department of Music chairpersons is also available. It is designed to accomplish three goals: to stimulate intercollegiate participation in performing groups, to encourage crossregistration in music courses, and to make available concentrated study for students with extensive music backgrounds. Courses at Consortium institutions should not duplicate those taught at Clark and require the approval of the department chairperson or, where necessary, the Dean of the College. Students enrolled in the day college may not enroll independently at other Consortium institutions and receive Clark credit. To help students select cross-registration courses, the Consortium office compiles a master course list by subject. This list appears prior to registration and is located in the Registrar's Office.

NON-TRADITIONAL EXPERIENCES

Academic experiences outside the normal curriculum (e.g., internship experiences, off-campus research, study at non-accredited institutions) are eligible for course credit. To qualify, an experience must involve an extension, embodiment, or illustration in some significant way of previous or concurrent systematic academic work. It must also take place under competent supervision and the learning involved must be formally evaluated by a Clark faculty member. The goals and structure of the experience must be agreed to by the instructor and the student prior to the beginning of the experience. Course credit will not be given for work that duplicates previous course work or other prior educational experiences. Students seeking information on this topic should contact the Internship Office or the Dean of Students.

INTERNSHIPS

More than ever before, students are seeking to integrate their formal educational experience with their individual aspirations, preferences, and lifestyles. They wish to tie together the theoretical knowledge they have gained in the classroom and the practical knowledge derived from the daily confrontation with reality. For many of these individuals, a non-traditional educational experience, such as an internship, offers an opportunity to achieve these ends.

An internship is an opportunity for a student to spend a semester working part- or full-time outside the University setting and to integrate this work experience with his or her academic program. Successfully completed internships may be awarded University credit toward the undergraduate degree. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent systematic academic work. It must also take place under competent supervision by an agency sponsor and the learning involved must be formally evaluated by a Clark faculty member.

Students seeking more information on this topic should contact the Financial Aid Office, which has the responsibility of administratively coordinating internship opportunities for Clark undergraduates.

ACADEMIC ACCELERATION

The University encourages academic acceleration for qualified undergraduate students. A student may earn the bachelor's degree in less than four academic years through a combination of Advanced Placement credit, overload course work, attendance in the Modular Term during the normal academic year, and participation in Summer Schools. No student may, except with the permission of the College Board, take overload work in his or her first semester in residence unless the overload is the result of co-recommended or co-required one-quarter or one-half courses (e.g., some science laboratory courses). Students may, after the first semester in residence, take up to four and one-half courses over a semester period. Academically qualified students (defined as three out of four courses with a B+ or better, and no D's, in all courses taken during the previous semester) may, with the signature of the student's adviser or department chairperson, be eligible for further overload course work.

NORMAL PROGRAMS

The undergraduate normally carries a full program of four courses in a given semester. In general, a course meets three times weekly for a semester. Laboratory periods are usually three hours long. Students should consult their faculty adviser or major department when questions of course or program selection arise.

PARTIAL PROGRAMS

Under special circumstances, students may be permitted by the Deans of Students to register for a semester program of less than three courses. These students are designated as part-time students. All students registered for less than four full courses will be required to pay a standard surcharge of \$193.75 (ten per cent of tuition) which will be added to the prorated tuition charge. For example — the charge for three units would be \$1,453.11 + \$193.75 = \$1,646.86.

ORIENTATION

Freshmen and transfer students attend an orientation program held on the campus for several days before the academic year begins. The intent of this program is to assist students in registering for a program of studies and to familiarize them with the Clark and Worcester communities. Placement examinations will be given and opportunities will be provided for students to attend individual and group meetings with faculty and other students.

ACADEMIC ADVISING

At orientation and during the first year, new students are provided the opportunity to meet in groups and individually with faculty members in order to obtain advice regarding course program and related matters. Each student is assigned a faculty adviser. Toward the end of their freshman year, students are asked to indicate their preference for adviser from the major department, and advising responsibility at that point is assumed primarily by the various academic departments.

ADVANCED PLACEMENT

Placement in advanced courses is determined by individual performance on special departmental placement examinations or, in some instances, on the Advanced Placement and Achievement Tests of the College Entrance Examination Board. Two course credits for certain courses completed in high school will be granted toward the bachelor's degree if a student has received a 4 or 5 on a College Entrance Examination Board Advanced Placement Test. Students who receive a 3 on an Advanced Placement Test may be granted some amount of credit only at the discretion of the appropriate academic department.

REGISTRATION

Every student registers for a specific number of courses at the start of Semester 1 and Semester 2. A special registration will be held for Modular Term. Notification of the dates registration occurs is given in advance; failure to register within the announced period occasions a late registration fee. Students are strongly urged to register at advance registration. While enrolled at Clark during the academic year, a student will receive credit only for work registered at or through Clark.

STUDY ABROAD

Clark University has programs abroad in the French, German, and Spanish language areas:

French: Luxembourg
German: Trier, Cologne
Spanish: Guadalajara

Academic programs offering most fields of study are available for one semester or the entire academic year. In

addition, at Trier and Guadalajara, Modular Term (May-June) programs are offered in German and Spanish, respectively.

Clark University has exchange relationships with the universities of Sussex and Manchester in England, permitting qualified Clark students in most fields of concentration one year of study in England.

For further information, and to explore the possibility of integrating study abroad into an undergraduate program of study, contact Mr. Carter, Department of English, and Mr. Schatzberg, Department of Foreign Languages and Literatures.

A foreign study listing is available in the International Programs Office. All programs for study abroad must be approved by the College Board.

AMERICAN STUDIES

Located in central New England, the Worcester area offers a rich variety of institutions and landscapes as a supportive setting for studying American culture and society. Our new program in American Studies offers students an inter-disciplinary approach to American civilization, with opportunities for intensive study in selected areas. From foundation courses mixing large parts of history, literature, and geography, students can tap the resources of many departments — and of central New England — in pursuing an American Studies concentration within the major of their choice.

JUDAIC STUDIES PROGRAM

Courses in Judaic Studies are offered at Clark in several departments in the following fields of study: Hebrew Language, Biblical Literature, Yiddish Literature, Intellectual History, Ancient History, and the Geography of Israel. Courses included in the program are listed under Judaic Studies.

WOMEN'S STUDIES

There has been an increased concern and interest expressed in both the practical and scholarly concerns about social roles, biological theories, and cultural formulations of women's and men's positions in society. From such investigations there is a resulting body of literature, stemming from and contributing to, extant disciplines which examine these issues. Although we do not offer a major in Women's Studies, we do offer a group of courses in a variety of departments which speak to the issued raised by such concerns. These courses are crosslisted in individual departments.

WASHINGTON SEMESTER PROGRAM

Clark participates in the Washington Semester Program of the American University in Washington, D.C., and the Washington Center for Learning Alternatives Internship Program.

Under the program, a small number of superior students may be nominated to attend the program. usually in the junior year, studying United States government in the nation's capital. Although any student may be interested in the program, the opportunity should be particularly attractive to students majoring in government, international relations, history, economics, or sociology. A credit of four courses is given for the program toward the bachelor's degree at Clark. Inquiry and application should be made to the chairman of the Department of Government and International Relations.

SUMMER SCHOOL COURSES OTHER THAN CLARK'S

Students are strongly advised to confer with the Registrar prior to taking summer school courses to assure acceptability of credit toward the Clark degree. Such approval should be obtained prior to the end of the second semester.

GUEST AND SPECIAL STUDENTS

The University provides for guest students from other colleges and universities who wish to study at Clark for one or two semesters and for special students who wish to take only a few courses without enrolling as degree candidates. Students enrolled as guest students should contact the Admissions Office. Persons interested in special student status should contact the Registrar.

NON-CREDIT AUDIT STATUS

Persons not enrolled as full-time Clark students who wish to audit courses on a non-credit basis are invited to do so. Approval of the instructor of the course is required. In limited-enrollment or sectioned courses, regularly enrolled Clark students are given preference for available openings. Registration is arranged through the Registrar's Office. A fee of \$193 per course will be charged.

NOTE: Records for non-matriculating auditors are kept for only the semester in attendance. Transcripts are not issued at the conclusion of the course, nor at a later date.

Requirements for a Bachelor's Degree

GENERAL REQUIREMENTS

Course requirements: Credit toward the Bachelor of Arts degree is expressed in terms of courses. A course, normally one semester in duration, involves three class meetings of 50 minutes each and three to four hours of laboratory, where appropriate, per week. A course may

sometimes be offered at half-strength or double-strength intensity over a half-semester.

Minimal academic performance: To graduate with the B.A. degree, a student must receive passing grades in the 32 full courses required for graduation; he or she must receive a C- or better in at least 24 of these courses. Equivalencies for students with fewer than 32 courses in residence will be established by the College Board.

For the purpose of transfer, a full course is equivalent to four semester hours credit.

RESIDENCE

Normally, at least one-half of the total number of courses required for a bachelor's degree, as well as at least one-half of the total number of courses taken for the fulfillment of the major, must be taken at Clark University. Of these, eight of the last 16 courses must be completed at Clark. This policy is presently under review by the Undergraduate Academic Board.

TOTAL COURSE REQUIREMENTS

Successful completion of a total of 32 full courses is required for the bachelor's degree.

GROUPS

Courses may be obtained at the undergraduate level in the following fields of instruction which, for administrative purposes, are known as "groups."

Group A. Science and Mathematics: biology, chemistry, experimental psychology, geology, mathematics, and physics.

Group B. Social Sciences: economics, education, geography, government, history, international relations, linguistics, philosophy, psychology, and sociology.

Group C. Language and Literature: English, classics, comparative literature, French, German, Hebrew, Italian, Russian, and Spanish.

Group D. Fine Arts: studio art, art history, music, theatre art, and film.

Group E. Interdisciplinary Studies: environmental affairs; humanistic studies; Science, Technology and Society.

MAJOR REQUIREMENTS

Major: A departmental major consists of from 12 to 19 courses taken from those designated by the department in the Program of Advanced Studies. No department may require a student to take more than 19 courses in the expanded major, but a student may take more than 19 courses if he or she meets the other requirements for graduation.



GRADES

Reports on the work of each student are made at the end of each course. At the time of final registration, each undergraduate student must elect one of two reporting patterns for each of his or her courses, unless the option has been explicitly restricted for that course. First, the student may elect to receive an A, B, or C grade, with modifying symbols plus and minus, or D; or No Record. Second, he or she may elect to receive the letter P (indicating successful completion of the course at C- or better) or No Record. If the grading option is restricted by the instructor, the student may receive a Cr (indicating successful completion of the course at C- or better) or No Record. Courses in which students receive No Records do not appear on the student's permanent record.

The faculty accepts the following qualitative description of grades:

In reference to the Clark student body as a whole over the long run,

A indicates work of distinction, of exceptionally high quality;

B indicates good work, but not of distinction;

C indicates satisfactory work;

D indicates marginal work;

NR indicates unacceptable work.

INCOMPLETES

A record of incomplete may be permitted by approval of the College Board or Deans of Students only when sickness or some other unavoidable circumstance prevents completion of the course. A record of incomplete incurred in the first semester must be made up no later than the following April 1; if incurred in the second semester or in the Modular Term, it must be made up no later than the following October 1. If a course is not completed within the specified time, the record of Incomplete is changed to one of No Record.

ELECTION OF THE PASS OPTION

The availability of the Pass option in virtually all courses is designed to help minimize the competitive aspects of grading for those who find competition harmful to learning. Some students may wish to elect a number of their courses on this basis.

All students should remember that the great majority of graduate and professional schools have expressed a preference for graded transcripts and encourage applicants to have many graded courses. Pre-professional students and those for whom graduate school is a goal should exercise caution in employing the Pass option. Similarly students who have interest in the attainment of honors such as Phi Beta Kappa and general course honors at graduation should exercise the Pass option cautiously.

RESTRICTION OF OPTION

A department may, with the approval of the Undergraduate Academic Board, restrict the grading option for its majors in the major program. An individual faculty member may, with the approval of the Undergraduate Academic Board, offer a course on a Credit/No-Record basis.

WITHDRAWAL FROM COURSES

A student may withdraw from any course at any time during the first four weeks of classes, regardless of the grade thus far attained in that course, providing that, after withdrawal, he or she is carrying no fewer than three courses. Withdrawal from courses during the last two weeks of classes requires permission of the College Board.

COURSE CHANGES

A student may enter a course without special permission, unless such permission is required, any time up to final registration at the end of the first week of classes. After the first week, a student may enter a course with the permission of the instructor up to four weeks after the beginning of classes in a semester-length course. Thereafter, a student may enter a course only with the permission of the instructor and the College Board.

CLASSIFICATION OF STUDENTS

All students who have not been required to withdraw at the end of the academic year will be promoted if they have satisfactorily completed the following number of courses:

To the sophomore class 6 courses To the junior class 14 courses To the senior class 22 courses

PROBATION

A student whose accumulated courses at the end of one semester are less than three (or less than two and one-half in the case of a freshman) will be reminded by the Dean that he or she is in jeopardy of being required to withdraw.

DISMISSAL

A student may be required to withdraw from the college by failing to complete successfully the following number of courses through the academic year:

Introductory Program (freshman) 5 courses Program of Advanced Studies 6 courses Students who are required to withdraw will not ordinarily be eligible for a Jonas Clark Scholarship for the first semester of their return to the University. Students who meet demonstrated need and other federal eligibility requirements may apply for available loan and job funds.

The Financial Aid Office will reinstate scholarship funds after successful completion of one semester.

PLAGIARISM

In order to insure academic integrity and to safeguard students' rights, all cases of plagiarism should be reported to the College Board. Such reports of plagiarism should be carefully documented, and students accused of the infraction notified of the charge. Students found guilty of plagiarism are liable to suspension or expulsion.

EXAMINATIONS

Final examinations are given at the end of each course in many college courses. Approximately one week is set aside for each examination period and an attempt is made to distribute the examinations for any individual student throughout this period. Absence from a final examination, except for the most compelling reasons, may result in a No Record in the course. Other examinations and tests may be given at any time during the course at the convenience of the instructor.

CLASS ATTENDANCE

The college has no class attendance requirements. However, instructors have the prerogative of establishing such requirements for their own courses.

LEAVES OF ABSENCE

A student who is in good standing may apply to the Deans of Students for a leave of absence, after which he or she may return to the University without formal application for readmission.

Honors and Awards

DEPARTMENTAL HONORS

A student may elect a program leading to a bachelor's degree with honors in a particular subject at the beginning of the junior year and, in some cases, at the beginning of the senior year. Under the plan, the department appoints an honors adviser who assists the student in planning a unified program of courses for the junior and/or senior years. The program may include a maximum of six courses in which the student works with a large measure of independence under the supervision of the adviser. In the senior year, the student must pass a comprehensive examination given by the department.

Students may apply in writing to their major department for permission to take honors work, not later than May 1 of the sophomore year or, in some

departments, in the junior year. Department approval is necessary for admission to such work. In exceptional cases and in certain departments, application may be made and admission approved by the department concerned as late as the first two weeks of the senior year but only with consent of the College Board.

Admission to an honors program does not relieve the student from any of the standing regulations. A student's candidacy for honors will be terminated at the end of any semester in which he or she has not maintained a standard satisfactory to the department in which the honors work is being done.

The department may recommend the student's graduation with honors, high honors, or highest honors, the recommendation to occur at the conclusion of the honors program.

GENERAL HONORS

General Course Honors are determined by the College Board annually on the basis of 8 semesters' work or its equivalent. Criteria such as grades, percentage of courses taken on P/NR and graded basis, and number of courses at Clark are used for determining the awarding of General Honors. Ordinarily 3/4 of a student's record at Clark must be graded if he or she is to be eligible for General Honors.

PHI BETA KAPPA

The Society of Phi Beta Kappa, founded at the College of William and Mary in 1776, is dedicated to the recognition and encouragement of outstanding scholarly achievement in liberal studies. The Clark Chapter, Lambda of Massachusetts, was established in 1953. Each year, a limited number of juniors and seniors are elected to membership on the basis of distinction in programs which are clearly liberal in character, with due consideration of evidence, both formal and informal, of high scholarship and creativity.

Tuition and Other Charges

SUMMARY OF TUITION AND OTHER CHARGES FIRST AND SECOND SEMESTERS ACADEMIC YEAR 1977-78

Tuition	\$3,875
Room (Dormitory: Single \$890, Double \$790)*	790
Board (19 meals \$865, 10 meals	
\$685, 5 meals \$465) (Plus 8%	
meals tax)	865
Consolidated Fee	125
Student Activity Fee — \$58 per semester	116
Sub-total for continuing students	\$5,771



\$ 2	25
3	30
\$5,82	26
\$88.0	00
20.0	00
2.0	00
	\$5,82 \$88.0

Admission Deposit (new students) Tuition Deposit (upperclassmen)

Key Deposit — Dormitory Room

Dormitory Deposit

Key Deposit — Mailbox

Deposits

GENERAL INFORMATION

Tuition, board, dormitory charges, and certain fees are due and payable prior to the beginning of each semester. These dates for 1977-78 are August 15, 1977 for Semester 1 and December 15, 1977 for Semester 2. Students are not permitted to register for any semester until all financial obligations have been satisfactorily arranged with the University.

There is a late fee of \$25.00 assessed against all accounts not paid in full by the August and December due dates. In addition, interest at the rate of 1 per cent per month (annual rate, 12 per cent) will be charged on all balances (including tuition deposit) 30 days or more past due.

REFUND POLICY

\$100.00

200.00

50.00 5.00

1.00

Withdrawals are arranged in the Dean of Student's Office. A student who officially withdraws in writing

during the first week of any semester is allowed a refund of 80 per cent on tuition; during the second week, 60 per cent; during the third week, 40 per cent; during the fourth week, 20 per cent; after the fourth week there is no refund. The Consolidated Fee and Activities Fee are refunded by the same formula. There is no refund on other charges, except board, when a student withdraws from the University.

When a student has left, but not withdrawn from, the University on the advice of a doctor within the first four weeks of a semester, and a decision is made later that the student must withdraw, tuition refund is made retroactive to the date of the doctor's recommendation, based on the schedule described above. A detailed statement of the refund policy may be obtained in the General Office.

PROGRAM REDUCTION POLICY

A normal academic program is comprised of four courses each semester. Part-time status is allowed only with prior permission of the Dean of Students. If given permission to register for less than four units, a standard surcharge of \$193.75 (10 per cent of tuition) will be added to the prorated tuition charge. For example — the charge for three units would be \$1,453.11 + \$193.75 = \$1,646.86.

CONSOLIDATED FEE

A fee of \$125.00 per semester including matriculation, graduation, laboratory, and health services fees is charged to all matriculated students regardless of the number of courses taken.

ORIENTATION FEE

\$30.00 is assessed all new students to cover food and other related costs during orientation.

CONTINGENCY DEPOSIT

All undergraduates are required to pay a \$25.00 deposit to cover minor charges, such as property damage, which may be incurred during the year. They are billed each year for whatever charges are incurred; the balance is refunded upon completion of their studies.

DORMITORY DEPOSIT

A dormitory deposit of \$50.00 is required each spring of upperclassmen to reserve a place in a dormitory. It is credited toward the dormitory charges. The deposit is *forfeited* if the student does not enroll for the specified semester.

STUDENT ACTIVITY FEE

A fee of \$58.00 per semester, levied and administered by the Student Council, is required of all matriculated undergraduates. It pays for admission to and participation in a wide range of cultural and recreational activities.

APPLICATION FEE

A fee of \$20.00 must accompany the application for admission to the college. It is *not refundable*.

ADMISSION DEPOSIT

A deposit of \$100.00 is required of applicants when they accept the University's offer of admission. It is credited toward charges for the first semester. The deposit is *forfeited* if the student does not enroll for the specified semester.

TUITION DEPOSIT

A deposit of \$200.00 is required of all students planning to return to the University for their sophomore, junior, or senior years. It is payable by May 1, and is credited toward charges for the fall semester. \$100.00 of the deposit is forfeited if the student does not enroll for the specified semester.

IDENTIFICATION CARD

Identification cards are issued each year to all students without charge. This card is your official college identification and should be carried at all times. Loss should be reported immediately to the General Office. There is a \$3.00 replacement charge for lost IDs.

CLARK UNIVERSITY TUITION BUDGET PLAN

The University offers a budget plan that is designed for families who find it more satisfactory to budget college costs from monthly income as opposed to the traditional twice yearly payment system. Under this plan, annual college charges are divided into 10 consecutive monthly payments. The initial payment is due in May and the final payment will be due in February of 1978. The only fee for participation in this plan is \$25.00. This fee includes the cost of automatic life insurance coverage guaranteeing payment of the balance of the budgeted amount to Clark University in the event of the death of the insured parent. This program is administered for Clark University by Academic Management Services in Pawtucket, Rhode Island. Information regarding this plan is mailed to all students who are offered admission to the University.



DINING HALLS

Dining Halls in Dana Commons and Jefferson Hall are operated for the convenience of students and staff of the University. Service is cafeteria style. The snack bar in Dana Commons is open to all members of the Clark community. A cafe where beer, wine and snacks are served is located in Dana Commons, and is open to members of the University community who have passed their 18th birthday.

KOSHER MEAL PLAN

A Kosher Meal Plan, organized by the Clark Chapter of Hillel, is available, at an additional charge, for students who wish to observe Kosher dietary laws. At the present time, the plan provides for noon and evening meals.

DORMITORIES

Freshmen are ordinarily expected to live in University housing. Rooms are assigned by the Dean of Students during the summer prior to the arrival of the freshman class. Upperclassmen usually have the option of living in dormitories or moving off-campus into private apartments. A request to live on campus is considered binding for the academic year; exceptions, of course, are made if a student withdraws, or takes a leave of absence. Inquiries about housing should be sent to the General Office.

HEALTH SERVICE

The University Health Service provides out-patient facilities for minor medical services to all students. Two nurse-practitioners, a part-time nurse and a part-time physician are in attendance. Other physicians, health specialists and hospitals are available in Worcester.

PSYCHOLOGICAL SERVICES

The Clark University Psychological Services Center offers psychodiagnostic, psychotherapeutic, and referral services to members of the Clark community.

Administratively the Center is part of the Department of Psychology and is a training agency for graduate students in clinical psychology. A significant portion of the Center's work is done by graduate students under supervision of several faculty-staff members who are clinical psychologists. There is also a part-time psychiatric consultant. A brochure describing the Center and its services may be obtained at the Center's main offices in Room 301 of Jonas Clark Hall.

FRATERNITIES

Tau Epsilon Phi, Clark's only fraternity, maintains a house near the campus at 40 May Street. Its members are involved in numerous campus organizations and sponsor small dances which are open to the entire Clark community, as is the fraternity itself.

KEYS AND KEY SECURITY

Key Deposit: A deposit of \$5.00 for each room key issued is required, refundable upon the return of the key. A \$1.00 deposit is required for all mailbox keys, also refundable upon return of the key. The deposit is forfeited if the key is lost, or is not returned within 30 days after the close of school or departure of the student from campus.

I.D. Required: Clark I.D. cards must be shown for issuance of keys.

OFFICE OF CAREER PLANNING AND PLACEMENT

The Office of Career Planning and Placement is a resource to which students are encouraged to turn for individual assistance in working through the relationships between undergraduate study, their personal values and goals, and their post-commencement options.

Students and alumni of the University may use the services of the Office of Career Planning and Placement which include: (1) a library of graduate and professional school catalogs and a variety of directories and program listings which are available to students in their search for desired fields of graduate/professional study; (2) extensive information about career possibilities of interest to Clark students, extending from traditional fields of endeavor to new, developing, and non-traditional career areas; (3) strong support for students in their senior "job-search" process, including directories of organizations which are potential employers in many fields, help in the process of resume-writing, and a resume-mailing service; and (4) professional help in these specific services by means of informal conversation, interest surveys, and counseling.

Physical Education and Athletics

Programs are designed to stimulate and encourage students to wider participation in physical activities, to promote health and mental efficiency, and to lead to continuing participation throughout life. Participation is yoluntary.

STUDENT ACTIVITIES CENTER

With the completion of the student activities center, students will have available expanded facilities for basketball, indoor tennis, volleyball, badminton, handball, squash, paddleball, track, wrestling, indoor soccer, dance, fencing, gymnastics, and weightlifting, as well as practice areas for baseball and golf. A six-lane, competition-size pool will provide previously unavailable opportunities for recreational swimming and diving and for organized water sports.

INTERCOLLEGIATE ATHLETICS

For students with a reasonably high level of skill and a well-defined and strong interest in athletic competition, intercollegiate schedules are arranged in soccer, crosscountry, golf, hockey, baseball, and track for men; for men and women, in basketball, crew, and tennis.

Additional intercollegiate competition may be arranged as student interest warrants.

Clark University is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference, the New England College Athletic Conference, and numerous sports associations. Clark is an N.C.A.A. Division III school and typically competes with the following Division III, Division II, and Division I constituency: Amherst, Williams, Brandeis, Tufts, M.I.T., Bates, Bowdoin, Colby, Middlebury, Coast Guard, Assumption, Holy Cross, W.P.I., Springfield.

INTRAMURAL ATHLETICS

The opportunity to gain some of the benefits of participation in competitive athletics is offered to all students through organized intramural competition in touch football, basketball, volleyball, tennis, handball, table tennis, paddle rackets, softball, soccer, squash, golf, and a superstars tournament.

VOLUNTARY PHYSICAL EDUCATION PROGRAM

Individual and group no-credit classes are offered each semester in ballet, modern dance, gymnastics,

yoga, karate, tennis, judo, weight training and conditioning, and fencing. Inquiries should be directed to the Department of Athletics.

COED RECREATIONAL ATHLETICS

Students may participate in coed and recreational leisure-time activities including archery, badminton, basketball, fencing, golf, gymnastics, horseback riding, sailing, swimming, tennis, softball, volleyball, and in several dance activities, including folk, square, and modern dance. The same activities are available to men's and women's groups. (Off-campus arrangements may be made for golf, sailing, and horseback riding.)

Admission

FRESHMAN ADMISSION

Clark University welcomes applications for admission from men and women without regard to race, creed, color, or national origin. Selection is competitive and is based primarily on academic promise as indicated by secondary school performance, recommendations, and Scholastic Aptitude Test scores. Secondarily, decisions reflect consideration of the individual experience and particular circumstances unique to each candidate.



ENTRANCE REQUIREMENTS

In general, the completion of a minimum of 16 acceptable units of credit in a four-year secondary school program or its equivalent is required for admission to the freshman class. Such preparation typically includes four years of English; two or more years of any foreign language studied; two or more years of mathematics (three or more for those planning a science or mathematics major); at least one year each of social studies and natural science (more laboratory work for those planning a science major); and other credit electives, including the arts, recognized in the secondary school curriculum.

SCHOLASTIC APTITUDE TEST

All applicants must submit by January of their final year of secondary school the results of the Scholastic Aptitude Tests as administered by the College Entrance Examination Board. Contact the Admissions Office concerning Achievement Tests.

EARLY ADMISSION

Applications from accelerating students are encouraged when supported by unqualified and enthusiastic school recommendations. Official records of all secondary schools must be submitted in every case.

EARLY DECISION

Realizing that many students do not decide on their first choice of college until well into their senior year in secondary school, Clark has established two application deadlines for Early Decision candidates. Any student who submits an application and registration fee of \$20 by November 1, clearly indicating Clark as his/her first choice, will be notified by December 1. All other applications indicating Clark as first choice should be received by January 15, and will be acted upon by February 15. Although participation in Clark's Early Decision Plan does not preclude regular applications to other colleges, it does imply a commitment by the student to withdraw all other applications upon notification of acceptance. A deposit of \$100.00, non-refundable, is required of accepted candidates.

REGULAR ADMISSION

For freshman admission in September, candidates should initiate an application as early as possible during the first semester of the final year in secondary school, and no later than February 1. An application fee of \$20, non-refundable, must accompany each application unless a waiver is being requested.

NOTIFICATION OF ADMISSION AND DEPOSIT

Time of notification of admission to the incoming freshman class is normally on or about April 15. Students

who have applied for Early Decision will be notified on or about December 1 or February 15.

Upon receipt of a formal offer of admission, undergraduate candidates must indicate acceptance of the offer by making an admission deposit of \$100.00, non-refundable, to reserve a place at the University. This deposit is credited toward the first semester charges.

DEFERRED ENROLLMENT

Students wishing to elect the deferred enrollment option must submit a request in writing. The tuition deposit becomes due on April 1 of the following year for September enrollment, or by December 1 for the following January. Students seeking deferred enrollment should be prepared to submit transcripts of work completed elsewhere, if appropriate.

ADVANCED STANDING

Freshmen may enroll with advanced standing upon presentation of a transcript for college-level work already completed. Additional credit or placement may be earned on the basis of Advanced Placement Test scores of 4 and 5. Scores of 3 are awarded credit at the discretion of the department concerned.

Further information concerning testing programs may be obtained from the student's college adviser or from the College Entrance Examination Board which may be addressed in the East at Box 592, Princeton, New Jersey 08540, and in the far West at Box 1025, Berkeley, California 94701.

CAMPUS VISITS AND INTERVIEWS

Candidates for admission are encouraged to visit the campus and are invited to write or call the Admissions Office for detailed information concerning schedules, organized tours, appointments, and interviews. Although campus interviews are not required of applicants, we welcome the opportunity to arrange them for students wishing to visit Clark.

HOUSING ARRANGEMENTS

All single freshmen not living with their families are expected to live in University dormitories. Rooms are assigned by the Dean of Students during the summer prior to the arrival of the freshman class.

Upperclassmen usually have the option of living in dormitories or moving off campus into private apartments. A request to live on campus is considered binding for the academic year; exceptions, of course, are made if a student withdraws or takes a leave of absence. Inquiries about housing should be sent to the General Office.

TRANSFER APPLICANTS

Clark welcomes applications for admission with advanced standing from students attending two- and four-

year institutions. The majority of students admitted enter at the junior level; many do, however, transfer to Clark with sophomore and advanced freshman standing.

Of special interest to transfer candidates are the University's B.A./M.A. program options in Comparative Literature, Environmental Affairs, and International Development and Social Change.

The application deadline is May 1 (December 15 for places available at mid-year).

TRANSFER REQUIREMENTS AND NOTIFICATION

All applicants for transfer are required to submit evidence of good standing, complete transcripts of all previous academic work, secondary level and beyond, including the Scholastic Aptitude Test if taken, and any other information requested by the Admissions Committee such as recommendations and course description catalogs. Decisions are announced as soon as possible depending upon completeness and scope of records.

TRANSFER CREDIT

Credit is normally given for academic courses previously taken at accredited colleges and universities and for Advanced Placement Test results as described above. Credit for courses at non-accredited institutions is granted on a provisional basis to be evaluated upon successful completion of two semesters of full-time work at Clark. No credit is given for any course completed with a grade lower than a C-minus.

Evaluation of credits for college courses completed elsewhere is made at the time of admission or upon receipt of final transcripts and is used in planning a course program and in provisional classification as a freshman, sophomore, or junior. A maximum of 50 per cent of both the Clark B.A. degree and the departmental major requirements may be accepted in transfer, and normally a minimum of two academic years at Clark is necessary for completion of degree requirements.

Undergraduate Financial Aid

GENERAL INFORMATION

Financial aid is allocated on the basis of financial need and academic performance. Special talent in music, art, athletics, and other areas, as well as leadership ability are also taken into consideration. Aid is packaged and consists of scholarships, grants, loans, and part-time employment. The Committee on Financial Aid assesses each student's financial circumstances on the basis of the

computation system established by the College Scholarship Service of the College Entrance Examination Board, Princeton, New Jersey, or the American College Testing Program, Iowa City, Iowa. The assessment takes into account family income and assets, age of parents. financial commitments to other dependents and members of the family, and other special circumstances. It is expected by the University that a student's resources for education will come first from family resources and his/her own savings and earnings.

COSTS

Expenses at Clark vary from student to student, but an average student expense budget (1977-78) is as

Total		Commuter		
Tuition	\$3,875	\$3,875		
Consolidated Fee	125	125		
Student Activities Fee	116	116		
Orientation Fee				
(Freshmen and Transfers only)	30	30		
Contingency Fee				
(Freshmen and Transfers only)	25	25		
Insurance (Optional)	88	88		
Room and Board				
(19 Meal Plan** and Double Room) 1,655				
Books and Supplies - Average	175	175		
Clothing, Laundry, Recreation,				
Incidentals	400	400		
Travel	*	175		

^{*}A reasonable allowance should be budgeted for travel between the University and the student's home.

INDEPENDENT SOURCES **OF ASSISTANCE**

All applicants for financial assistance are urged to pursue independent sources of financial assistance. Scholarships are often awarded to graduating seniors by their high school and/or private scholarship agencies in students' local communities. Request additional information from your high school guidance office.

Residents of Massachusetts are expected to apply for a State Scholarship to the Board of Higher Education, 182 Tremont Street, Boston, Massachusetts. Entering freshmen may obtain application materials and further instructions from their high school guidance office. Clark upperclassmen should contact the Financial Aid Office. Out-of-state students should investigate the opportunity of using their state scholarship program at Clark.

An important source of federal financial assistance is offered in the form of Basic Educational Opportunity Grants. These grants, which vary in amount up to \$1,400 per year, are available to students who demonstrate financial need according to federal regulations. Entering

^{**}Plus 8% meals tax.

freshmen should obtain applications and further instructions from their high school guidance office. Clark upperclassmen should inquire at the Financial Aid Office for additional information. All applicants for financial aid are required to file a BEOG application.

The Guaranteed Student Loan Program is designed primarily for middle income families who do not qualify for other types of financial assistance. For those who need additional help, it may also be utilized as a resource to supplement scholarship, grant, and loan. Offered chiefly through lending institutions, this program is subsidized by federal funds. For those who qualify, the federal government will pay the 7 per cent simple annual interest while the student is in college. Loans up to \$2,500 per academic year are offered in most states. Total loans outstanding may not exceed \$7,500 for an undergraduate student. Additional information and application materials are available at local banks. Clark University is also a lender under this program and can make loans directly to qualified students who are unable to obtain a loan from a local bank. Information for entering freshmen and upperclassmen may be obtained at the Financial Aid Office.

Veteran's Benefits may be available for service veterans and children of deceased and/or disabled veterans. Eligibility can be determined by contacting your

local Veterans Administration Office.

Social Security Education Benefits may be available for children whose parent(s) are deceased and/or disabled. Additional information is available at your local Social Security Administration Office.

Rehabilitation Assistance may be available for students who qualify for educational benefits. Information concerning rehabilitation services can be obtained at the State Rehabilitation Office.

Clark University Financial Assistance

Clark University makes a commitment to entering freshmen and thenceforth from year to year as long as they continue to show financial need. Although any student who enters Clark may apply for assistance as an upperclassman, guarantees are made only to those needy students who received aid their first year.

Assistance at Clark is "packaged" in the form of scholarship, loan, grant, and employment from the following sources:



Jonas Clark Scholarships — a portion of the University income is reserved for this purpose and gifts from alumni, parents, and friends provide additional scholarship funds.

Supplemental Educational Opportunity Grants part of a federal program of assistance to college students demonstrating exceptional financial need. Continued support from this fund is contingent upon annual congressional allocations.

National Direct Student Loans - long-term loans which bear no interest until nine months after a student ceases to be at least a half-time student at an institution of higher education. At that time, interest begins to accrue at the rate of 3 per cent on the unpaid balance. A person borrowing from this fund will repay the amount in equal installments of at least \$30 per month principal over an extended repayment schedule. Continued support is contingent upon annual congressional allocations.

Student Employment — available during the summer and part-time during the academic year. The basic source of funds for employment is the federal College Work-Study Program. Jobs, offered as part of the package of financial assistance, and placement are handled by the Financial Aid Office.

Most scholarships awarded by the University are designated Jonas Clark Scholarships. Funds for these scholarships are derived from University income and from endowed funds as follows: Because of the various restrictions placed on these funds, it is the policy of the University to select eligible recipients. Students should not apply directly.

The Reginald Bryant Allen Fund The Alumni Group Scholarship The B'nai B'rith Scholarship The Gertrude and William Brodie Award The Reina and Isidore Chaiklin Scholarship Fund The Charles W. and Annie L. Bruninghaus Fund The Clark University Faculty Women's Club Scholarships

The Theodore T. and Mary E. Ellis Fund The Albert C. Erickson Scholarship The A.D. Ross Fraser Scholarship The Aaron Fuchs Memorial Scholarship Fund The Paul S. Goldman Memorial Scholarship

The Bertram L. and Bessie T. Handleman Fund

The Frank H. Hankins Scholarship

The High School Basketball Tournament Scholarship

The Lennard A. Hill, '57, Memorial Scholarship Fund The Gertrude and Eva Hillman Scholarship

The Frances Tufts Hoar Fund

The Gordon A. Hubley Fund The M. Hazel Hughes Scholarship

The George N. Jeppson Scholarship Fund

The Dr. Edmund Randolph Laine Scholarship Fund

The David Ashley Leavitt Memorial Scholarship Fund

The Levi Knowlton Fund

The Elizabeth T. Little Scholarship Fund for Women

The Homer Payson Little Scholarship in Geology The Livermore and Ambulance Drivers Scholarship The Robert H. Loomis Scholarship The National Council of Jewish Women Scholarship The Alice Friend Newton Memorial Scholarship The Abraham Persky Scholarship Fund The Charles B. Randolph Fund The Helen Brewster Randolph Memorial Scholarship The Jennie L. Richardson Scholarship The William Richardson Scholarship The Elliott Stephan Sahagian, '67, Scholarship Fund The Sanford Memorial Scholarship The Samuel Schanberg Memorial Scholarship Fund The Fredric T. Sewall Scholarship Fund The Henry L. Signor Scholarship The Russell S. Thompson, '18, Scholarship Fund The Benjamin R. and Grace F. Vandeford Student Aid Fund

The Whitman Scholarship The Henry A. Willis Scholarship

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Financial Aid Form (FAF) to the College Scholarship Service by February 15, and direct that a copy be forwarded to Clark University. The Financial Aid Form may be obtained from the secondary school guidance office. Offers of financial assistance will be made simultaneously with, but independent of, the decision of the Admissions Committee. All recipients are required to verify the information reported on the Parents' Confidential Statement by filing a copy of their parents' 1977 federal income tax return. Early Decision candidates should file the Parents' Confidential Statement for 1976-77 by November 1.

Prospective transfer students who are requesting financial assistance should submit the Financial Aid Form to the College Scholarship Service at the same time application is made for admission. Transfer students must also submit a photo copy of their parents' 1977 federal income tax return to the Financial Aid Office before an aid decision can be made. Award notification will be made concurrent with acceptance to the University, if possible; F.A.F. processing takes approximately four weeks. Applicants will not be required to post an admission deposit before receiving a financial aid decision.

Upperclassmen must reapply annually for financial assistance by submitting an updated Financial Aid Form to the College Scholarship Service by April 1. In addition, a copy of the parents' previous year's income tax form (Form 1040) must be filed with the Financial Aid Office by April 30. Assistance is renewed as long as the applicant continues to demonstrate financial need.



GENERAL INFORMATION

Clark University was initially established in 1887 as the second graduate institution in America. Its faculty and graduates have endowed the University with an impressive record of accomplishments through the years. Under the administration of the Graduate Board, Clark offers programs leading to master's and doctor's degrees to qualified holders of a bachelor's degree or its equivalent of attainment.

Master of Arts degrees are offered in the fields of biology, biomedical engineering (in cooperation with Worcester Polytechnic Institute), chemical-physics, chemistry, comparative literature, criminal justice, economics, education, English, environmental affairs, geography, government, history, international development, mathematics, physics, and psychology. The Master of Business Administration degree is offered by the Department of Management. In addition, Clark offers a Master of Business Administration degree in Management, a Master of Public Service degree in public administration and public health, and a Master of Liberal Arts degree.

Doctor of Philosophy degrees are offered in biology, the biomedical sciences (in cooperation with the Worcester Foundation for Experimental Biology and Worcester Polytechnic Institute), chemistry, chemicalphysics, economics, geography, history, mathematics, physics, and psychology. A Doctor of Education degree is offered by the Department of Education, Post-doctoral training is conducted in geography, psychology, and the sciences.

Departments which do not at present accept candidates for graduate degrees may offer courses which are suitable for inclusion in a program of graduate study.

Scholarships, fellowships, and assistantships are listed at the end of this section. Additional information concerning departments and their offerings will be found in the section entitled "Departments and Courses."

INQUIRIES

Inquiries by students in American institutions concerning specific programs of graduate and postdoctoral work should be addressed to the chairman of the department concerned or to the relevant director of program. Please check catalog section, Departments and Courses, for names of department chairmen and program directors. Inquiries by foreign students should be addressed to the Dean of the Graduate School.

ADMISSION TO THE GRADUATE SCHOOL

Admission to the Graduate School may be granted only by the Dean of the Graduate School acting for the Graduate Board on the recommendation of a department or program of the University. Admission to the school does not imply admission to candidacy for a degree.

Application: A prospective applicant from an American institution should communicate with the

appropriate department or program head. If encouraged to make an application, the applicant will be provided with an application form which, accompanied by a \$20 application fee, should be returned to the department or program. In addition, the applicant should arrange the forwarding of an official transcript of all undergraduate and any subsequent academic work, and three letters of recommendation from persons who are competent to judge qualifications for graduate study.

Department or program heads may request the submission of additional material, and most require a record of attainment in the Graduate Record Examination given by the Educational Testing Service, Princeton, New Jersey. All applicants are urged to take, and to submit the results of, the Graduate Record Examination verbal, quantitative, and advanced tests.

A foreign student, if encouraged by the dean to make formal application, should provide a certified English translation of his or her official record (if not in English), evidence of English proficiency (TOEFL), at least two letters of recommendation, and a statement concerning the applicant's financial resources or agency support.

Applications both for admission and for financial aid should be completed not later than February 15 if the applicant intends to begin studies the following September. Applications for admission may be submitted, however, through the year. Students applying for financial aid are required to fill out a Financial Aid Form before awards are made.

Application for admission as a special status graduate student (not in a degree program) should be made through the Registrar's Office.

Admission: Admission to the Graduate School is granted for entry only at a specified time and lapses if the student fails to enter at that time. Admission as a parttime graduate student may be granted to qualified applicants who cannot devote full time to study, upon recommendation of the department or program head.

If a student, when admitted, was a candidate for a degree elsewhere, he or she must arrange upon receipt of that degree to have a supplementary transcript, including a notation of the degree conferred, sent directly to the Dean of the Graduate School.

MASTER OF ARTS

Residence: An academic year (8 semester courses) of study in residence is a minimum requirement for a master's degree. Individual departments or programs may require longer periods of residency. Residence study is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

Foreign Language: Language or other special requirements are included in the department announcements in this catalog.

Candidacy: Application for admission to candidacy for a master's degree must be filed with the Dean of the Graduate School not later than the first week of the last

full semester which the student expects to spend in residence as a candidate for a degree. Forms are obtainable at the Registrar's Office.

Applications will be considered by the Graduate Board when the student has completed one semester of full-time graduate work or its equivalent in residence at the University and obtained the written endorsement of the major department or program.

Candidacy for the degree of Master of Arts is valid for four years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years on vote of the Graduate Board.

Course and Examination Requirements: Each student must complete at least eight semester courses in a program approved by the department. One course may be a research course devoted to the preparation of the thesis. Credit for a maximum of two courses at another institution may be approved by the Dean of the Graduate School upon recommendation of the department.

Each candidate must pass such written examinations as required by the major department and a final oral examination by a committee of three or more, one of whom must be a member of the Graduate Board.

Thesis: The thesis is written on a topic in the field of the student's special interest under the supervision of a member of the department and in a style, length, and format that is appropriate to the problem being researched. The ribbon copy of the thesis, a precis approved by the supervising instructor, and an academic history must be deposited in the Registrar's office not later than three weeks before the date of the commencement at which the degree is to be conferred. At least one additional copy of the thesis and the precis must be delivered to the major department, which may require more than one copy. The precis may not exceed 75 words in length. The title page, precis, and academic history forms are obtainable from the Registrar's Office. The ribbon copy of the thesis must be typed as prescribed in "The Master's Thesis." These instructions are available at the Registrar's Office.

The thesis is deposited by the Registrar in the University library. The precis is printed in an annual publication, *Dissertations and Theses*.

Diploma Fee: This fee for the Master of Arts degree is \$25.00. It covers the cost of the diploma, publication of the precis in the booklet Dissertations and Theses, and binding of the library copy. It is payable when the thesis is deposited with the Registrar. Students who do not write a thesis, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Alternative Program: A candidate for the degree of Master of Arts may be recommended for the degree without a thesis after passing the preliminary doctoral examination.

Non-Resident Students: Continuing students who are not in residence at Clark are required to pay a non-resident fee of \$100.00 per semester.

MASTER OF ARTS IN EDUCATION

The residency, candidacy, course, examination, and diploma fee requirements are the same as those listed for the degree of Master of Arts.

Thesis: Students may choose one of three options, subject to the approval of the Department of Education. They may choose to: (1) prepare a thesis as required for the M.A. degree; (2) elect two additional subject-matter courses; or (3) elect a research seminar in which papers are prepared and presented to fellow students and staff.

Further information concerning the degree of Master of Arts in Education may be found in the catalog section, "Departments and Courses," listed under the Department of Education.

MASTER OF ARTS IN CRIMINAL JUSTICE

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF BUSINESS ADMINISTRATION

This degree is offered through the Department of Management. For further information, see the catalog section "Departments and Courses," listed under the Department of Management.

MASTER OF LIBERAL ARTS

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF PUBLIC SERVICE

This degree is offered in public health and public administration. For further information, request a catalog from the College of Professional and Continuing Education, Clark University.

DOCTOR OF EDUCATION

The program leading to the degree of Doctor of Education emphasizes human development and learning as it relates to curriculum, instruction, and evaluation, and in the sociology of education. The requirements for this degree closely parallel those for the degree of Doctor of Philosophy (see below). See catalog section on Department of Education for further information.

DOCTOR OF PHILOSOPHY

Only well-qualified candidates with proven ability in their special fields of study will be enouraged to proceed to the degree of Doctor of Philosophy.

Residence: The minimum requirement is one year of full-time study (8 semester courses beyond the M.A.), or its equivalent in part-time work, in residence.

If the degree of Master of Arts has been earned at Clark, this requirement is in addition to the residence requirement for that degree.

Foreign Language: Each graduate department sets its own language or related requirements as the student's field of research may demand, and must report such requirements in each case to the Dean of the Graduate School. If a language is required, either the Educational Testing Service Foreign Language Tests or on-campus testing are employed at the discretion of the department.

Preliminary Examination: Upon completion of preparation in the fields of study, a prospective candidate takes a preliminary examination set by the major department. This examination may be written or oral, or a combination of both. The chairman of the department may invite other scholars from within or outside the University to participate in the examination.

Candidacy: An application for admission to candidacy should be filed when the applicant has: (1) completed two full academic years of graduate work, or its equivalent in part-time work, including one year at Clark University; (2) completed the departmental requirements in a foreign language; (3) passed a preliminary examination in the chosen field of study; (4) obtained the written endorsement of the major department. Application forms are obtainable at the Registrar's Office.

Candidacy for the degree of Doctor of Philosophy is valid for three years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years by vote of the Graduate Board.

Dissertation: A dissertation, which is expected to make an original contribution to a special field of knowledge, is required of each candidate. The dissertation, approved by the chief instructor or dissertation committee, is laid before the examining committee at the final oral examination.

An abstract of the dissertation, not exceeding 600 words in length, and a precis, not exceeding 75 words, both approved by the instructor or committees under whom they were written, are also required.

Four weeks before the degree is to be conferred, the ribbon copy of the dissertation, together with two official title pages, an academic history, the ribbon copy of the abstract and of the precis, each in a form prescribed, must be delivered to the Registrar. At the same time, one or more copies of the dissertation and of the abstract may be required by the major department. The title pages, precis, and academic history forms are obtainable at the Registrar's Office. The ribbon copy of the dissertation must be typed as prescribed in "The Doctoral Dissertation" and "Suggestions for the Preparation of Doctoral Dissertations for Microfilming." These instructions are available at the Registrar's Office.

The Registrar deposits the dissertation and the abstract in the University library where they remain permanently. A microfilm copy of each dissertation is made by University Microfilms, Inc., of Ann Arbor, Mich., and is available for duplication by them on request. The abstract is printed in Dissertation Abstracts: the precis is printed in an annual publication, Dissertations and Theses.

Articles published in refereed journals may be accepted in lieu of a dissertation.

Final Examination: The final examination is oral and lasts for at least two hours. Additional written examinations may be given if the major department so directs. The candidate is expected to defend the dissertation and, at the discretion of the examining committee, may be questioned on the entire special field of study. The oral examination is conducted by a committee of at least four members, composed of at least one member of the Graduate Board and such members of the department and non-members from within or without the University as the chairman may appoint. The chairman notifies the Dean of the Graduate School, at least one week in advance, of the time and place of the examination and the composition of the committee. The Dean is authorized to invite any person from within or without the University to be present and to assist in the examination.

Diploma Fee: This fee for the Doctor of Philosophy degree is \$85.00. It covers the cost of the diploma, hood. publication of the precis in the publication Dissertations and Theses, publication of the abstract in Dissertation Abstracts, and binding of the library copy of the dissertation. It is payable when the dissertation is deposited with the Registrar.

Non-Resident Students: Continuing students who are not in residence at Clark are required to pay a nonresident fee of \$100.00 per semester.

POST-DOCTORAL STUDY

Post-doctoral students are classified in three categories: Honorary Fellows who are visitors for varying lengths of time, always more than a few days, who wish to observe activities of a department, to study or to carry on research, but without formal teaching duties or support by the University; Research Associates who work full-time with designated members of the University staff on research projects, normally supported by grants, without formal teaching duties but with some responsibility for directing laboratory assistants; and Trainees who enroll in a formally offered post-doctoral training program.

The Honorary Fellow and Research Associates enjoy faculty status, although the extent to which faculty privileges may be granted may be restricted by availability of space and other resources.

GRADUATE SCHOLARSHIPS. FELLOWSHIPS AND ASSISTANTSHIPS

Graduate fellowships and scholarships are provided for well-qualified graduate students by the University from endowed funds and from other sources. Financial aid to graduate students is available also in the form of grants from a number of special funds, and in some departments, from sponsored research grants. A limited amount of part-time employment is available in the various offices and departments of the University. Students who receive awards must obtain permission from the department before accepting employment.

All applicants for admission who request financial assistance are required to file a Student Financial Statement with the College Scholarship Service as part of their application. This form, along with specific instructions, should be requested by contacting the applicant's prospective department or program. Financial aid is not necessarily based on an evaluation of the student's need. However, a portion of the assistance offered may be in the form of National Direct Student Loans or College Work-Study employment. Both of these federal programs require that a student demonstrate financial need by completing the Student Financial Statement.

APPLICATION

Application for a scholarship or fellowship to begin in September should be made before February 15 to the chairman of the department or director of the program in which the applicant expects to do major work. Late applications, after endorsement by the department, go to the Dean of the Graduate School for final approval.

RESEARCH FELLOWSHIPS

These fellowships may be awarded to graduate students who have fulfilled their residence requirements and who are pursuing a full-time doctoral program on campus.

TEACHING ASSISTANTSHIPS

There are three categories for Teaching Assistantship appointments:

1. Part-time Lecturer — a non-probationary, part-time faculty position which does not lead to consideration for tenure or faculty fringe benefits (TIAA, vacation, etc.). The student is responsible for a small class and should have considerable independence over all aspects of teaching and grading. The student will be under the general supervision and direction of a senior faculty member.

This category is reserved for the advanced student who has manifested, clearly, skill in teaching and is qualified and experienced in the subject to be taught. The student should be accorded as many faculty privileges as possible, e.g., attending department meetings and having office space. Stipend for this position is \$3,200-\$3,600 for eight months.

2. Teaching apprentice — students with prior teaching experience, either as an undergraduate or as a graduate assistant. Responsibilities include conducting discussion sections for a course, supervising laboratory sections, running tutorial sessions, grading papers and projects, and discussing these with the undergraduate students.

The student in this category should be under the direction of a professor who would assume responsibility for the student's training as a teacher. Stipend for this category is \$3,000-\$3,200 for nine months.

3. Teaching Assistant — students with little or no teaching experience. Responsibilities include tasks that allow them to observe experienced teaching assistants or instructors and learn their pedagogical methods. Duties are assigned on a job basis and may include assisting other senior TAs, setting up and tearing down laboratory equipment and doing a variety of other tasks associated with teaching a course or section.

The assistant may grade examinations only if a part of a general grading team of assistants or under the direct supervision of a senior TA or instructor. Stipend for this category is \$2,800-\$3,200 for nine months.

The time commitment for each category is approximately half-time. Tuition will be remitted on all three categories. The number of hours of study an assistant at any level takes in addition to teaching responsibilities should be decided by the department chairman with overall supervision from the Dean of the Graduate School. The Internal Revenue ruling which states that payment for teaching is non-taxable provided it is a requirement for an advanced degree is still in effect, though with some detailed provisions. We have been informed that some cases at other schools have been questioned. If a student chooses to have tax withheld, he or she is usually entitled to a tax refund when filing with the Internal Revenue Service.

Note that the departments of Biology, Chemistry, Economics, Geography, Government, History, Mathematics, Physics, and Psychology require teaching experience for graduate degrees. See the departmental announcements in the catalog section on "Departments and Courses."

ASSISTANTSHIPS

In several departments, assistantships are available. They involve a variety of services including research with stipends to correspond, and usually provide the student with experience which will be useful in later professional work.

GRADUATE FELLOWSHIP AND SCHOLARSHIP FUNDS

Stipends for fellowships and scholarships are provided by:

The Alumni Association Fund, provided by alumni who hold the degree of Doctor of Philosophy to benefit students studying for that degree.

The George S. Barton Fund, a bequest from the Honorable George S. Barton of Worcester, to be used for the benefit of native-born citizens of Worcester.

The Elnora W. Curtis Fund, a bequest from Dr. Elnora W. Curtis (A.M. 1908, Ph.D. 1910) for the benefit of graduate students.

The Eliza D. Dodge Fund, to be granted to graduate students of limited means who are engaged in research work.

The Henry Donaldson Jordan Award in History, for high standard of scholastic achievement, and qualities of

character which will be valuable in the training of teachers.

The Joseph F. Donnelly Memorial Fund, a bequest from Lucretia F. Donnelly to help men who are enrolled in a course leading to the degree of Doctor of Philosophy.

The John White Field Fund, established by Mrs. Eliza W. Field to provide for the minor needs of a scholar or fellow.

The Austin S. Garver Fund, a bequest from Austin S. Garver, member of the Board of Trustees from 1908 to 1918.

Graduate School Scholarship Fund, a bequest from Alexander H. Bullock, a member of the Board of Trustees from 1926 to 1946, and president of the Board from 1938 to 1946.

The George Frisbie Hoar Fund, the gift of Andrew Carnegie in honor of the second president of the University's Board of Trustees.

The Myers Fund, a gift of George E. Myers (Ph.D., 1906) to assist graduate students to do research in education and psychology.

The David J. Ott Scholarship, the scholarship designed to support a qualified student towards the Ph.D. degree in economics. The successful candidate is assured support (tuition plus stipend) for three years at Clark.

The Charles H. Thurber Fund, provided by Charles H. Thurber, member of the Board of Trustees from 1913 to 1938, and president of the Board from 1919 to 1937.

GRADUATE LOANS

Loans, bearing interest at three per cent per year after completion of residency, are available on a limited basis for full-time graduate students upon registration.

Applications are available at the Graduate School Office.

Federal funds are available for graduate students at Clark University in the form of National Direct Student Loans. The maximum amount a student may borrow in any one academic year is \$2,500. The total amount a student may borrow as an undergraduate and graduate is \$10,000.

The National Direct Student Loan Program provides funds for long-term loans which bear no interest until a student has completed full-time study. Normally a person borrowing from these funds will repay the amount over a period of ten years. National Direct Student Loans are granted on the basis of financial need and available funds. All National Direct Student Loan commitments are made contingent on Congressional appropriation of funds annually for this program.

Contact Barbara Tornow, Director of Financial Aid, for further information on the National Direct Student Loan Program.

LOAN FUNDS

The Mary S. Rogers Scholarship and Loan Fund, established in 1926 for the benefit of students in the graduate school.

The Mary M. Thurber Fund, established by the late

Dr. Charles L. Thurber, former president of the University Board of Trustees, as a memorial to his mother.

For loans from these and other sources that may become available, application should be made at the Graduate School Office.

DEPARTMENTAL FUNDS

The Wallace W. Atwood Research Fund. The income of this fund may be used at the discretion of the staff in the Graduate School of Geography for the promotion of field studies in geography by any member of the staff, or any one of the alumni holding a graduate degree from the Graduate School of Geography, or for the publication of results of such research work.

The Chester Bland Fund. The income of this fund is preferably used to provide aid to a promising student, either in residence or engaged in research elsewhere under the direction of the Department of History. It may also be used to defray the expense of visiting lecturers or of departmental research.

The Wallace W. Greenwood Fund. The income only is to be divided between the Departments of Physics and Chemistry and to be used for any purpose within the scope of these two departments.

The Morton L. "Sonny" Lavine Foundation is a memorial to Lieutenant Lavine of the United States Army, World War II. The income is to be used for the promotion of research in the Department of History.

The Libbey Fund, bequeathed to the University by Mary E. Libbey, is to establish a fellowship in physical geography and to aid the department in that field.

HOUSING AND BOARD

Off-campus rooms and apartments for both men and women are available in the immediate area of the University and University accommodations may be available. For information concerning off-campus accommodation, contact directly the Office of Buildings and Grounds, which keeps a bulletin board of available off-campus rooms and apartments. For on-campus accommodation, contact the Office of the Dean of Students. The Graduate School Office will also be glad to assist students in finding housing. Students should plan to arrive a few days before registration in order to arrange for housing because of the limited number of suitable off-campus apartments in the immediate area.

Graduate students are invited to take their board in the University dining halls under one of the food plans available. They will also find the Snack Bar available for single meals.

HEALTH SERVICE AND INSURANCE

A low-cost insurance plan covering ordinary medical expenses and limited maternity benefit for married students is available through the University. Unless a student is protected by similar insurance, he/she must enroll in this plan, since all graduate students must be

covered by Health and Accident Insurance. Students are not automatically covered by this insurance but must apply for it through the Graduate School Office where applications are available. Blue Cross-Blue Shield will be offered as an alternate insurance plan.

Graduate students are entitled to use of the University Health Service for minor first-aid needs.

Graduate Tuition and Other Charges

GENERAL INFORMATION

Tuition and non-resident fees are due and payable within 30 days of date of issuance of invoice. Accounts 30 days or more past due are assessed interest at the rate of one per cent per month (annual rate 12 per cent). Identification cards are provided each year of residence. A late registration fee of \$25.00 is charged if registration is not completed by the end of the first week of the semester. Candidates who are not in residence must pay the non-resident fee until the requirements for the degree are fulfilled; non-payment will automatically terminate candidacy.

SCHEDULE OF TUITION AND OTHER CHARGES

Tuition — full program, \$1,937.50 per semester. If less than a full program, the student will be charged according to the fraction of a program indicated on the registration card by the chairman of the department.

Tuition for Special Graduate Students — \$485.00 per course.

Other Fees — payable at registration:

Health Fee (optional) \$ 65.00

*Health and Accident Insurance (mandatory)

Single Students \$ 61.00 Married Student and Spouse \$141.00 Family Plan \$183.00

*Insurance rates quoted are for the 1976-77 academic year. Rates for the 1977-78 academic year will probably be higher.

Diploma Fee — payable at the time the thesis or dissertation is deposited with the Registrar.**

Master's Degrees \$25.00
Doctor of Philosophy Degrees \$85.00
Doctor of Education Degrees \$85.00

**Students who do not write a thesis or dissertation, including those receiving the degree through the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Non-Resident Candidate Fees — payable on November 1 and March 1. If the thesis or dissertation is deposited with the Registrar before either date, no fee is charged for the semester. The fees double upon renewal of candidacy.

Master's Candidates\$100.00Doctoral Candidates\$100.00

(For the Master of Business Administration tuition and fees, write to *The Clark M.B.A. Program,* Department of Management, Clark University.)

(For the Master of Arts in Criminal Justice, Master of Liberal Arts, and Master of Public Health tuition and fees, request a catalog from the College of Professional and Continuing Education, Clark University.)

REFUND

A student who officially withdraws in writing during the first two weeks of any semester is allowed a refund of 60 per cent on tuition; during the third week, 40 per cent; during the fourth week, 20 per cent; after the fourth week there is no refund. There is no refund on other charges, except board, when a student withdraws from the University.

The College of Professional and Continuing Education

The College of Professional and Continuing Education is the division of Clark University responsible for academic offerings taken by people enrolling in the University on a part-time basis in order to continue their education or upgrade their professional credentials. COPACE courses, conducted at times convenient to continuing education students, may be taken alone for personal enrichment or as part of a program leading to an undergraduate or graduate degree.

DEGREE PROGRAMS

Undergraduate programs are given leading to the following degrees:

Bachelor of Science in General Studies
Bachelor of Science in Business Administration
For further information, write to Dean, COPACE, Clark
University, for catalog on undergraduate programs.

Graduate programs are given leading to the following degrees:

*Master of Arts in Mathematics, catalog available from COPACE office.

Master of Liberal Arts, catalog available from COPACE office.

- *Master of Arts in Criminal Justice, catalog available from COPACE office.
- *Master of Public Service in Public Administration, catalog available from COPACE office.
- *Master of Public Service in Public Health, catalog available from COPACE office.
- *(These are part-time programs open only to practitioners actively involved in the professional fields.)

ADMISSION POLICY

Admission to COPACE courses and programs is open to Clark University students and to members of the Worcester community. Candidates applying for a degree program are required to submit records of their previous schooling. Clark undergraduates are normally restricted to six COPACE courses for their undergraduate careers. Inquiries concerning this matter should be directed to the Dean of the College.

The Summer School

SUMMER STUDY

Intensive instruction in numerous fields of study is offered in the summer program. A variety of courses is offered for undergraduates, graduate students, and teachers. A student may register for up to a maximum of 3.0 units of credit each summer, by attending both sessions. Evening courses are also available during the summer to all students to continue their education while engaged in daytime employment.

DEGREES AND CREDIT

All courses offered in the Summer School are accepted at Clark for credit toward bachelor's degrees unless they are specifically limited in the description of the course. Some courses may count toward the degrees of Master of Arts, Master of Arts in Education, and Doctor of Philosophy. However, approval for such courses should be obtained in advance from the student's major department.

Graduate students formally registered in the Summer School may, with the approval of their major department, enroll in thesis courses under the direction of regular members of the staff.

SUMMER SCHOOL CATALOG

Detailed information concerning the Summer School is contained in a Summer School catalog which may be requested from the COPACE Office.



SUMMER SCHOOL COURSES OTHER THAN CLARK'S

Credit toward a degree for study at a summer school other than the Clark Summer School must be approved by the Registrar no later than registration day of the following semester. Students are strongly advised to confer with the Registrar prior to taking summer school courses to assure acceptability of credit toward the Clark degree.

Integrated Undergraduate-Graduate Programs

In the fall of 1973, Clark University inaugurated a new departure in higher education with the creation of a number of programs which bridge undergraduate and graduate education. Noting the changes in graduate education and projected manpower needs in the United States, the University established a new set of program options for advanced undergraduate students. Each program normally covers a three-year span, beginning in the junior year and leading directly to an M.A. degree. The B.A. degree is awarded en route to the M.A. degree. The integration of undergraduate and graduate work usually accelerates student progress to an advanced degree. Each degree program has a strong career orientation, providing the student with the knowledge and skills to enter a profession directly or to continue on in a Ph.D. program elsewhere. Each program also emphasizes interdisciplinary education based upon a common core of course work and opportunity for individual professional interests. Formal application and admission to the program is required, and both Clark and transfer students are encouraged to apply. Transfer students interested in making application to the program should direct inquiries to the Admissions Office.

The University has approved programs of this type in comparative literature, environmental affairs, and

international development. The program in comparative literature centers on a problem-oriented approach to literature and theatre. Students will, in consultation with an advisory committee, formulate an individualized program of study which will stress interdisciplinary perspectives around a particular problem or theme. The program in environmental affairs trains professionals for carrying out a particular set of functions (technical, administrative, research, evaluative, planning, and teaching) that relate to the understanding and management of environmental affairs. The program in international development trains planners, managers, organizers, and educators in international development.

Eventually, other integrated undergraduate-graduate programs will be added until a network of such programs is available as a new set of options in the university-college.

Interdepartmental program descriptions are included alphabetically with department and course listings.

Preprofessional Programs

While Clark does not offer majors in professional fields at the undergraduate level in the day college, there are a variety of offerings of interest to students who plan professional careers. The following sections briefly describe the courses and major offerings at Clark appropriate to preparation for careers in a number of areas.

BACHELOR OF FINE ARTS

The Bachelor of Fine Arts degree is designed for the student with a strong interest in and commitment to the visual arts as a career. Admission to the B.F.A. program is highly selective and it is expected that the student will maintain a high level of professional practice in his or her courses. Periodic reviews of student work will be held to determine continuation in the program.

There is opportunity for independent studio study, special projects in visual art, and self-designed programs. Students may concentrate in film/video as part of the studio major, and those interested in elementary or secondary teaching or art therapy may participate in the Department of Education's internship program as preparation for certification.

Studio and art history courses are available to non-majors and to students with combined or self-designed majors. Certain courses at the Worcester Craft Center are also available to non-majors.

Exhibitions of contemporary art and the work of Clark students are presented throughout the year in the Little Gallery, and advanced students may exhibit in the Goddard Libary. The on-campus Craft Studio and the Art Association, a student organization open to all interested

persons, offer opportunities for extra-curricular involvement in art and craft activities.

CRIMINAL JUSTICE

Through its College of Professional and Continuing Education, Clark University offers a program leading to the attainment of a Master of Public Service degree. For undergraduate students interested in criminal justice as a discipline or as a career, the University offers over twenty courses that are relevant to the professional field. Examples from the list of relevant courses include: Government 222., Seminar: Public Policies and American Cities; History 223., Proseminar: American Constitutional and Legal History; Psychology 162., Psychoanalytic Interpretation of Behavior; Sociology 263., Deviance; Sociology 264., Juvenile Delinquency. For further information or counselling on the feasibility of designing a program in criminal justice, write to Director, Criminal Justice Program, Clark University.

EDUCATION

For information about Clark's preprofessional program in Education, please see the departmental section.

LAW

Students interested in a prelaw program are advised to plan a broadly-based academic program which is liberal in character and which has adequate samplings drawn from the natural and physical sciences, social sciences. and humanities. While there is no specific major or constellation of courses which are recommended for all prelaw students, it is important that the courses selected lead toward the development of certain skills, among which are: (1) Communication and articulation skills: courses in composition, creative writing, as well as courses in history, philosophy, government, and other social sciences and humanities in which the ability to read and write well is stressed; (2) Quantitative analysis and graphical presentation: courses in mathematics, computer science, and certain courses in economics and geography which help develop the ability to compile. understand, and interpret data and to present and analyze it in graphical form; (3) Logic: the study of law requires the systematic analysis of propositions and of the conclusions that can be drawn from them. Thus, all courses which provide training in this skill, such as those in philosophy (logic), mathematics, and some of the natural and social sciences are highly desirable; (4) Critical understanding: courses in ethics (philosophy), history, sociology, and other social sciences which promote understanding of human institutions and values are recommended.

In general, the records of students applying to law schools will be evaluated according to several criteria, among which are: (1) the overall quality of grades, (2) the breadth and distribution of courses, and (3) evidence of advanced learning and scholarship.

Students who are interested in prelaw are urged to consult their faculty advisers, the members of the Prelaw Advisory Board, and the prelaw *Handbook* which is available in the Office of Career Planning and Placement.

MANAGEMENT

Students interested in a career in business in particular or in management, in general, whether it be management in a profit or non-profit organization (government, health care delivery system, religious institution, etc.) should consider taking one or more undergraduate courses in management as electives or as part of an expanded major in some other related field.

While most managers were originally trained in a particular discipline, they generally find managerial competence requires skills far beyond their primary educational field. Since effective management requires competence in human relations, communication, leadership, and quantitative analysis, it is recommended that students take a cross-section of management courses and otherwise concentrate on selections from the undergraduate liberal arts program that provide an understanding of (1) Human relations and leadership: courses in psychology, sociology, anthropology, philosophy, government and international relations, and other offerings which stress the understanding of human behavior in a social context; (2) Quantitative analysis: courses in economics, mathematics, computer science. and other selections which emphasize quantitative understanding and competence in data analysis; (3) Communication and articulation skills: courses in composition, creative writing, and others which provide development of the abilities to read, write, and express oneself orally.

The undergraduate option in management may lead to a combined B.A./M.B.A. program in which the student is more comprehensively educated in organizational management. Students interested in a management option program should consult their faculty advisers and a member of the Department of Management.

MEDICINE AND DENTISTRY

Students who are interested in premedical or predental programs major in any of the sciences, social sciences, or humanities, but must complete — normally before the junior year — at least the minimum requirements for admission to medical and dental schools: one year of general chemistry; one year of general biology; one year of organic chemistry; one year of physics; one year of English. Calculus is also strongly recommended or required by many medical and dental schools. While there is considerable variation, some medical and dental schools encourage students to take courses in quantitative analysis, physical chemistry, and advanced biology. Proficiency in quantitative reasoning should be developed, and courses in mathematics, and in the sciences, as well as many social-science courses are

helpful toward that end. Although students are encouraged to take more than the minimum number of science courses required for admission to medical/dental schools, they are also urged to build breadth into their programs and to demonstrate their ability to handle successfully work in advanced courses. In selecting their courses and planning their programs, students are urged to consult their faculty adviser, members of the Premedical/Predental Advisory Committee, and the Handbook compiled by the Committee. Copies of the Handbook and other materials pertaining to premedical, predental, and other health-service education are available in the Office of Career Planning and Placement.

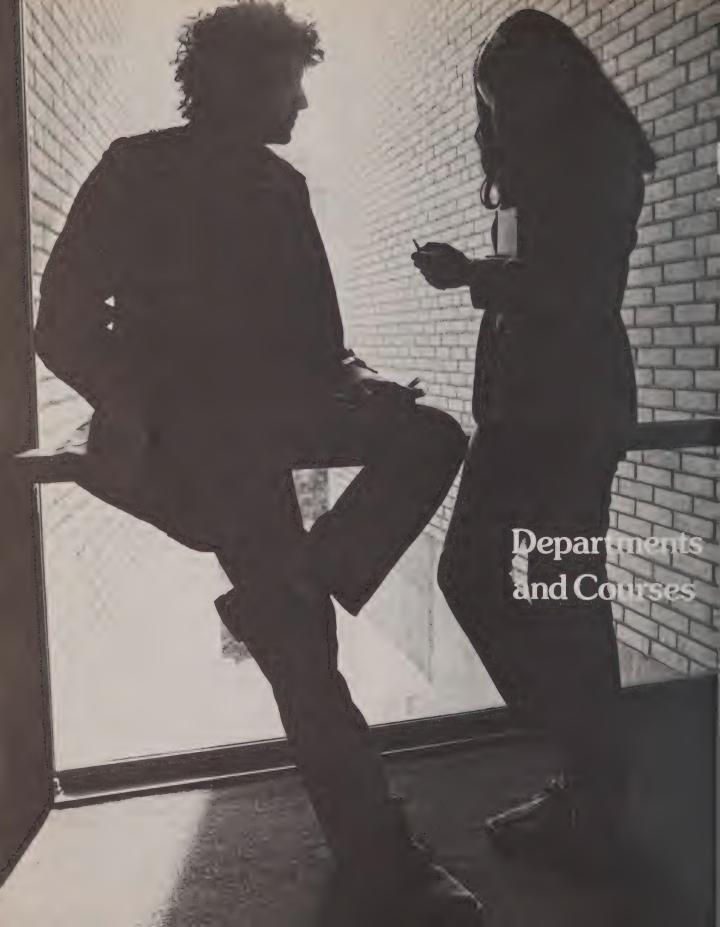
Library

The Robert Hutchings Goddard Library contains over 350,000 volumes. The major part of the collection is centrally housed, and an open-shelf system fosters free access to books and periodicals. Chemistry periodicals are available for reference at the Kraus Library in Jeppson Laboratory, and an extensive map library is housed in the Geography Building.

The collection reflects the history and growth of the University. The combined scholar's library of the early graduate school and the undergraduate library of Clark College have been developed through the years to serve the academic needs of the University. The richest holdings are in the fields in which graduate work has been offered for some years — biology, chemistry, economics, education, geography, government, history, international relations, mathematics, physics and psychology. More characteristically undergraduate in content are the collections dealing with music, fine arts, language, literature, religion, philosophy, and sociology. The Library pays particular attention to major bibliographical and reference tools, and annually receives over 1,900 periodicals. The acquisition and exchange of material is coordinated with other libraries in the Worcester area, and the Worcester Area Cooperating Libraries maintain a shuttle service to facilitate interlibrary borrowing.

The Robert Hutchings Goddard Library provides unusually fine quarters for the utilization of these collections. Completed early in 1969, the building has a potential capacity of 600,000 volumes and accommodations for 1,000 readers, including hundreds of individual study desks. Among its features are the Goddard collection and exhibit area; the Wilson Rare Book Room; University archives; special facilities for art books, record listening, and microtext reading; student and faculty lounges; and an after-hours reading room.

The building is named in honor of, and as an international tribute to, Dr. Robert H. Goddard, Father of the Space Age, distinguished alumnus, and professor of physics at Clark from 1914 to 1942.



The courses listed in this catalogue are the ones we anticipate offering as of July 15, 1976. Due to circumstances beyond our control, such as changes in faculty staffing, it may not be feasible to offer the exact set of courses indicated herein. Thus a prospective student should anticipate the possibility of additions and/or deletions to the set of courses offered during the 1976-77 academic year.

Art

(See Department of Visual and Performing Arts.)

Astronomy

A single course is available at the introductory level.

Advanced topics directly relating to astronomy are listed under Physics. Students interested in advanced work in Astronomy should consult with the instructor or the Physics Undergraduate Advisor.

1. EXPLORING THE UNIVERSE.

This course is explicitly designed for the non-science major who wishes to learn about the stars. It is also intended to provide for the interests of the student who seeks an acquaintance with the concepts and methods of science but who does not wish the detail found in the traditional introductory science survey course. Topics considered are interdisciplinary in character since astronomy involves physics, chemistry, biology, and geology. The use of mathematics is minimized; only simple algebra is utilized. Half of the course is devoted to consideration of the planets and the sun. In the other half of the course, the stars, their life cycles and the galaxies are studied. Theories of the composition and origin of the solar system, of the universe and of life are explored. The heavens are best understood by having the student make direct observations of celestial objects. Emphasis is therefore placed on the making, analyzing, and reporting of observations on the moon, sun, planets, meteors, stars, variable stars, nebulas, and galaxies. Students make these observations using telescopes in the University Observatory as well as on several night field trips.

Dr. Andersen.

Biology

Full course, Semester 1.

DEPARTMENT FACULTY

Rudolph F. Nunnemacher, Ph.D., Professor of Zoology, Chrm. Vernon Ahmadjian, Ph.D., Professor of Botany John J. Brink, Ph.D., Professor of Biochemistry Joseph C. Curtis, Ph.D., Professor of Zoology**
John T. Reynolds, Ph.D., Professor of Microbiology
H. William Johansen, Ph.D., Associate Professor of Botany Robert G. Sherman, Ph.D., Associate Professor of Physiology Margaret Comer, Ph.D., Assistant Professor of Biology Samuel E. Johnson, Ph.D., Assistant Professor of Zoology Timothy A. Lyerla, Ph.D., Assistant Professor of Developmental Genetics

Nicholas S. Thompson, Ph.D., Associate Professor of Psychology, Adjunct Associate Professor of Biology* Richard A. Howard, Ph.D., Assistant Professor of Geography, Adjunct Assistant Professor of Biology Affiliated Staff

George Camougis, Ph.D., Professor of Physiology (Affiliate) Frederic S. Fay, Ph.D., Associate Professor of Physiology (Affiliate)

lan D. K. Halkerston, Ph.D., Professor of Endocrinology (Affiliate)

Warren Litsky, Ph.D., Professor of Microbiology (Affiliate) Fernand G. Peron, Ph.D., Professor of Biochemistry (Affiliate) Harris Rosenkrantz, Ph.D., Professor of Biochemistry (Affiliate)

*on leave, 1976-77

UNDERGRADUATE PROGRAM

The Biology Department views as its primary roles for undergraduate education within the University: to train biologists in a preprofessional sense, for those individuals entering careers that use the biological sciences as their bases; to provide support for other programs in the University that require some exposure to biology for their fulfillment; and to integrate the paradigm of the biological sciences into a liberal arts curriculum. Its goals for its majors relate directly to the development of an independent or autonomous learner, particularly since this development is required for anyone who is to remain current with the ever increasing body of knowledge in this field. With respect to its undergraduate majors then, the department attempts:

- to provide an updated, coherent statement of the field a curriculum organized to reflect the inherent organization of the discipline.
- to familiarize the student with the process by which biological information is acquired by exposing particularly the interrelationships between experiment and theory.
- 3. to develop a critical facility in its students, an ability to judge quality work within this field.

The major in biology is suitable for those intending to apply for graduate studies in biology, medicine, dentistry, etc. Courses in the major must be taken for the letter grades.

A departmental major must take eight courses in biology of which six must be courses more advanced than the introductory course. However, only two of the six courses may be in directed research, directed readings or a seminar course. The "introductory biology year course" will be prerequisite for all other courses in biology, but students must fulfill prescribed prerequisites for specific courses.

The biology major must take, in related fields, a year of general chemistry, a year of introductory physics, and at least one additional year course in chemistry, physics or geology including in each case the laboratory for a total of six semester or three year courses. Additionally, the major in biology must take a full year of calculus (Mathematics 12 or 15). None of the aforementioned courses may be taken on a "Pass-No Record" option.

At least nine courses of a major's program must be taken from courses outside the field of biology, chemistry, geology, mathematics, physics and must not include any of the courses specified in the preceding paragraphs.

The department is currently reviewing its major requirements and this process will be completed by the fall of 1976. Therefore, we urge that all potential majors select and consult with an advisor for obtaining the maximum benefits which the department has to offer.

HONORS PROGRAM

An Honors Program is available to especially well-qualified majors and requires the student to engage in an independent research project during the senior year together with meeting other departmental requirements, i.e., a broad distribution of courses, quality grades, and an honors thesis and examination. Frequently, the Honors Project is the continuation of research

^{**}on leave, Semester 2, 1976-77

during the summer.

Specific criteria for admission and conduction of the Honors Program are available in the Departmental office.

GRADUATE PROGRAM

The department offers courses leading to Master of Arts and Doctor of Philosophy degrees in specialized phases of bacteriology, biochemistry, botany, cytology, embryology, genetics, marine biology, physiology and zoology. Admission to the graduate program assumes adequate preparation in the basic sciences, an overall undergraduate record of B or better and satisfactory standing in the Graduate Record Examination. Tuition scholarships and teaching assistantships are available. Detailed information can be obtained from the department chairman.

MASTER OF ARTS

The program usually requires three or four semesters of academic work and includes teaching experience and research culminating in an acceptable thesis.

DOCTOR OF PHILOSOPHY

The requirements are identical with those of the University and can be found in the catalog section on The Graduate School and includes teaching experience. The student's program is planned according to his needs with his program director.

COURSES

101. PALEO-ZOOLOGY

An interdepartmental course in geology and biology combining a systematic survey of the morphology, taxonomy and geologic history of groups of animals commonly found as fossils with their evolution to present-day forms. Three lectures and one laboratory period each week including field trips.

Full course, Semester 2. Mr. Nunnemacher.

105. BIOLOGY AND MAN.

An introductory course intended for those who do not plan to major in biology. The course surveys the animal kingdom and emphasizes the relationships of various animals to man. Man is considered the example of an animal's solution to problems of metabolism, irritability and reproduction. As far as possible, man's relation to current biological problems of ecology, etc. will be discussed.

Full course, Semester 1.

Mr. Nunnemacher.

106. BOTANY OF THE MAINE COAST.

A field course in basic botany and the identification of marine and fresh-water algae, fungi, lichens and flowering plants.

Full course, Modular Term. Mr. Ahmadjian, Mr. Johansen.

107. MARINE ECOLOGY OF BERMUDA.

A ten-day field study at the Bermuda Biological Station.

Non-credit, Modular Term.

Mr. Nunnemacher.

108. INTRODUCTION TO BIOLOGY.

Biology 108 is a full year course offered for those students who intend to major in Biology and/or take additional courses in the life sciences. The course is intended to prepare students who wish to broaden and deepen the concepts and skills acquired in secondary school for the more specialized advanced courses offered by the department. One half of the students enrolling in the course in September will be assigned to lecture/laboratory/discussion groups (108.1) taught by Mr. Reynolds over Semester 1. In January, those students will be assigned to two seminar courses (selected from 108.6-.9) for the two halves of Semester 2. The other half of the students enrolled

in September will be assigned to two seminar courses (selected from 108.2-.5) for the two halves of Semester 1. This second group also will be assigned to lecture-laboratory/discussion groups (108.1) taught by Mr. Ahmadjian over Semester 2.

The program units for the coming year are as follows:

Semester 1.

108.1

Lecture/laboratory/discussion groups - Reynolds (Offered in Semester 1, limited to 100 students in lectures and to 20 students in laboratory/discussion sections).

108.2-.

Introductory Seminar in Biology (all four offered twice, each in both the first and second halves of Semester 1, limited to 20 students in each class).

.2-

Symbiosis - Ahmadjian

.3-

Historical Development of Nucleic Acid Function - Curtis

.4 -

Biology of Aquatic Plants - Johansen

.5 -

Marine Biology - Johnson

Semester 2

108.1

Lecture/laboratory/discussion groups - Ahmadjian (Offered Semester 2, limited to 100 students in lectures and to 20 students in laboratory/discussion sections).

108.6-.9

Introductory Seminar in Biology (all four offered twice in Semester 2, limited to 20 students in each class).

6 -

Human Genetics and Societal Problems - Lyerla

.7 -

Island Biology - Nunnemacher

-8.

Cardiovascular Physiology - Sherman

.9 -

Brain Biochemistry & Behavior - Brink

1 full course and 2 half

courses through the year.

Staff.

109. MICROBIOLOGY.

A survey of the protists (with emphasis on the bacteria), their activities and the methods by which they are studied. Three lectures and three hours of laboratory work per week (limited to 40 students).

Full course, Semester 2.

Mr. Reynolds.

110. BOTANY.

Not offered, 1976-77.

A survey of the taxonomy, structure and physiology of plants. Three lectures and one laboratory period per week. Full course. Mr. Johansen.

112. COMPARATIVE ANATOMY.

A comparative study of the morphology of the vertebrates with emphasis on the evolution of animals from fish to man. Prerequisite: 108. Two lectures and two laboratory periods per week.

Full course, Semester 1.

Mr. Nunnemacher.

113. ALGAE AND FUNGI.

Representative examples of the major groups of algae and fungi are studied with emphasis on their structure, interrelationships and adaptation to their environment. Prerequisite: a course in botany or consent of instructor. Two two-hour lecture-laboratory periods per week.

Full course, Semester 2.

Mr. Johansen.

114. AQUATIC BOTANY.

Not offered, 1976-77.

A study of the algae, fungi and higher plants that inhabit fresh

waters and the oceans. Emphasis is on ecological aspects and plant identification. A field and laboratory course. Full course, Modular Term. Mr. Johansen.

115. FLOWERING PLANTS.

An introduction to the classification, evolution, ecology and economic importance of flowering plants, with emphasis on the New England flora. Ferns, fern-allies and gymnosperms will also be included. Short field trips will be made to nearby areas for examination of the spring flora. A collection of plants will be encouraged but not required. Two two-hour lecture-laboratory periods per week.

Full course, Semester 2.

Mr. Ahmadijan.

116. PLANTS AND MAN.

Not offered, 1976-77.

A course exploring the plants and plant products that have helped shape the development of man. Included will be cereal crops, forests and forest products, beneficial and harmful fungi. selective breeding of useful plants, historical aspects of agriculture, useful and destructive aquatic plants, noncereal food plants, drugs and medicinal plants, and future food supplies. Not for Biology major credit. Full course, Semester 2. Mr. Johansen.

117. PRINCIPLES OF ECOLOGY.

A course in basic ecological theory governing organismenvironment interrelationships. Population dynamics, energy flow, zoo-geography, community ecology, as well as ecological methods and environmental problems will be included. Three lectures per week.

Full course, Semester 1.

Mr. Johnson.

118. GENETICS.

Principles and problems of genetics.

Full course, Semester 1. Repeated Semester 2.

Ms. Comer. Mr. Lyerla.

119. EXPERIMENTAL GENETICS.

One laboratory period per week.

Full course, Semester 2.

Ms. Comer.

120. HISTOLOGY.

The microscopic anatomy of tissues and organs of mammals. Prerequisite: 112. Two lectures and two laboratory periods per

Full course, Semester 2.

Mr. Nunnemacher.

137. CELLULAR BIOLOGY.

The cell as a structural and functional unit. Introduction to the physiochemical properties and metabolic roles of molecules and macromolecules of cellular origin. Discussion of the roles of the nucleus and cytoplasm in the regulation of cellular processes. Three lectures per week. Prerequisite: Biology 108 or consent of instructor.

Full course, Semester 1.

Mr. Curtis.

170. HUMAN NUTRITION.

Not offered, 1976-77.

The basic components of food will be considered with respect to their biological function of maintaining human growth and vitality. The role of food additives and cultural variations in diet will be discussed. For non-science majors. Mr. Brink. Full course, Modular Term.

182. PRIMATE SOCIAL BEHAVIOR. Not offered, 1976-77.

The study of the social behavior of monkeys and apes highlights central problems in psychological, zoological and anthropological approaches to behavior. It also has important implications for the past evolution and present nature of man's sociality. See also Psychology 141

Full course.

Mr. Thompson.

183. PRINCIPLES OF BEHAVIORAL EVOLUTION.

Not offered 1976-77.

From a broad survey of the social systems of animals, this course will attempt to distill the general principles that have directed the evolution of animal behavior. See also Psychology 246

Full course.

Mr. Thompson.

212. SEMINAR IN PLANT ECOLOGY. Not offered, 1976-77.

Interactions between plants and their physical and biological environments. Prerequisite: 110 or 117 or consent of instructor. Full course, Semester 2. Mr. Johansen.

213. PLANT PHYSIOLOGY.

Not offered, 1976-77.

An introduction to the function and chemistry of plants. Three lectures, one laboratory period per week. Prerequisite: one course in botany and one in chemistry. Full course. Mr. Brink, Mr. Johansen,

214. SEMINAR IN PHYCOLOGY.

Selected topics dealing with algae from the structural, physiological or ecological points of view. Prerequisite: 110 and 113 or consent of instructor.

Full course, Semester 2.

Mr. Johansen.

215. INVERTEBRATE ZOOLOGY. Not offered, 1976-77. A detailed survey on the diversity of invertebrates. Anatomical and histological examination of selected types, concepts of evolution and speciation. Prerequisite: two semesters of biology or consent of instructor. Two lectures and two laboratory periods per week. Full course.

Mr. Johnson.

216. FIELD ECOLOGY.

An introduction to ecological methods involving studies of both aquatic and terrestrial habitats. Prerequisite: Biology 117 or permission. Two lectures and two laboratories per week. Full course, Semester 1. Mr. Johnson.

217. MARINE BIOLOGY.

An introduction to the marine ecosystem in relation to physical, chemical, geological and biological factors. Two lectures per week. Prerequisite: Biology 117 and consent of instructor. Full course, Semester 2. Mr. Johnson.

219. LABORATORY IN ETHOLOGY. Not offered, 1976-77,

An introduction to observational techniques and the study of human and animal subjects. Consent of the instructor. Full course. Mr. Thompson.

221. EMBRYOLOGY.

Consideration of the fundamentals of vertebrate embryology. Three lectures and one laboratory period per week. Prerequisite: Biology 112 or consent of instructor. Full course, Semester 1. Mr. Lyerla.

224. NEUROANATOMY.

Not offered, 1976-77.

The structural and functional organization of the central nervous system of man. Prerequisite: Biology 112 or consent of instructor. Three lectures per week Full course, Semester 2. Mr. Nunnemacher.

225. ELECTRON MICROSCOPY.

Introduction to the principles of electron optics, use of the electron microscope, preparation of specimens and the techniques of electron microscopy applicable to biological investigations. Two lectures and two laboratory periods per week. Prerequisite: permission of the instructor. Full course, Semester 1. Mr. Curtis.

228. ADVANCED TOPICS IN GENETICS.

Full course.

Staff.

229. EVOLUTIONARY BIOLOGY.

A review of the neo-Darwinian synthesis of evolution and genetics. Topics will include population genetics, speciation, polymorphism, inbreeding and molecular evolution.

Prerequisites: Genetics, Ecology or Bio-Geography.

Full course, Semester 1.

Mr. Lyerla.

230. BIOLOGY: THE STATE OF THE ART.

A seminar for seniors and beginning graduate students who are interested in assessing the progress that has been made in approaching the outstanding questions in the biological sciences. Permission of instructor required. Two 75-minute meetings per week.

Full course, Semester 1.

Mr. Reynolds.

232. SELECTED TOPICS IN BACTERIOLOGY.

A seminar for advanced undergraduates and beginning graduate students. Prerequisite: Biology 108 and consent of instructor. Two 75-minute meetings per week.

Full course, Semester 1.

Mr. Reynolds.

235. SEMINAR IN CELLULAR BIOLOGY. Not offered, 1976-77.

Prerequisite: Biology 137 or consent of instructor. Full course. Mr. Curtis.

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

An attempt to deal with those problems associated with water pollution that are amenable to solution through the application of concepts and approaches of the biological sciences. The participants do not have to be biology majors, but will be expected to be literate in one or more of the scientific disciplines. Permission of instructor required. Two 75-minute meetings per week. See also Science, Technology and Society 239.

Full course, Semester 2.

Mr. Reynolds.

240. GENERAL ANIMAL PHYSIOLOGY.

Introduction to the principles underlying physiological functions common to living organisms. The course covers the subcellular, cellular and organ levels of organization and places a primary emphasis on mammals. Prerequisites: Introduction to Biology and Introductory Chemistry. Three lectures and one laboratory per week.

Full course, Semester 1.

Mr. Sherman.

242. COMPARATIVE ANIMAL PHYSIOLOGY.

Not offered, 1976-77.

Full course.

Mr. Sherman.

247. SEMINAR IN NEUROPHYSIOLOGY.

A seminar on the principles of transmission, integration and storage of information in neuronal pathways and other considerations of the nervous system and muscles. Prerequisite: a course in neurophysiology or its equivalent or consent of the instructor.

Full course, Semester 1.

Mr. Sherman.

249. PRINCIPLES OF NEUROPHYSIOLOGY.

Physiology of central and peripheral nervous systems, receptors and muscles, considered in both vertebrates and invertebrates. Three lectures and one laboratory period per week. Prerequisite: Biology 240 or consent of the instructor.

Full course, Semester 2.

Mr. Sherman.

250. PRINCIPLES OF APPLIED IMMUNOLOGY.

Not offered, 1976-77.

An introduction to the basic principles, problems and theories concerning the immunological behavior of man and the animal kingdom, familiarizing the student with the experimental evidence upon which are based the present concepts of immune mechanisms. The course is oriented to demonstrate the basic methods of experimental immunology and the application of such methods to biological problems.

Full course.

Staff.

260. DIRECTED RESEARCH.

Advanced semi-independent study of an approved topic under the direction of a departmental member. Consent of instructor required. Required for honors in biology.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

261. DIRECTED READINGS.

Advanced readings on an approved topic under the direction of a departmental member. Consent of the instructor required. Variable credit.

Semesters 1, 2, Modular Term.

Staff.

262. HONORS IN BIOLOGY.

Staff.

268. PRINCIPLES OF PHARMACOLOGY.

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. See also Chemistry 268.

Full course, Semester 1.

Mr. Brink, Mr. Nelson.

270. BIOCHEMISTRY.

The principles of mechanisms of biochemical reactions in an understanding of the metabolism of foodstuffs and the role of enzymes, nucleic acids and hormones. An acquaintance with the instrumentation in biochemical research will be presented. Prerequisite: Chemistry 130. Three lectures, one laboratory per week, through the year.

Full course, Semester 1.

Full course, Semester 2.

Mr. Brink.

271. BIOCHEMISTRY OF NUCLEIC ACIDS.

Not offered, 1976-77.

The chemical and physical properties of RNA and DNA derived from various sources will be considered with respect to their isolation, separation and characteristics. The functional role and biological significance of the nucleic acids in subcellular organelles will be examined. Prerequisite: Biology 270 or consent of instructor.

Full course.

Mr. Brink.

273. NEUROCHEMISTRY.

The metabolic aspects of brain amines and biopolymers will be considered in relation to neural function. Effects of drugs on memory processes will be discussed in terms of biochemical mechanisms. Prerequisite: Biochemistry (270.) or consent of instructor.

Full course, Semester 2.

Mr. Brink.

280. THE HISTORY AND PRESENT STATUS OF INSTINCT.

Not offered, 1976-77.

It has long been argued and long contested that man and animal alike are guided in their social behavior by innate tendencies.

This offering will emphasize the devious and irrational course of progress in a scientific field of study so loaded with social and philosophic implications. Permission of instructor required. See also Psychology 260.

Full course.

Mr. Thompson.

291. QUANTITATIVE METHODS FOR BIOLOGY.

Not offered, 1976-77.

Elements of statistical methods will be stressed. These will include hypothesis testing, design and sampling. Also a brief introduction to computer programming and model-building techniques will be included.

Full course.

Mr. Howard.

300. READINGS AND RESEARCH IN BIOLOGY.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

310. SCIENTIFIC WRITING FOR GRADUATE STUDENTS.

An introduction to the techniques of writing scientific papers. The principal assignment will be the writing of a journal article and a detailed analysis of the steps involved. Related areas which will be covered include searching the scientific literature. handling of quantitative data relevant to biological systems and oral presentation of a scientific paper. Prerequisite: permission of the instructor.

Full course, Semester 1.

Mr. Ahmadjian.

317. MICROCLIMATOLOGY AND BIOMETEOROLOGY.

Not offered, 1976-77.

An introduction to the quantitative analysis of organismenvironment interactions.

Full course.

Mr. Johnson.

325. SEMINAR IN ULTRASTRUCTURE. Not offered, 1976-77.

Discussion of the structure of macromolecules and subcellular organelles in relation to their biological functions. Evidence obtained by a variety of physical and chemical methods will be considered, particular emphasis being placed on electron microscopic studies. Consent of instructor required. Full course. Mr. Curtis.

332. SEMINAR IN BACTERIOLOGY.

Selected topics in bacterial ecology and applied bacteriology. Consent of instructor required.

Full course, Semester 1.

Mr. Revnolds.

334. SEMINAR IN BEHAVIOR AND EVOLUTION.

Not offered, 1976-77.

A consideration of contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. See also Psychology 334.

Full course.

Mr. Thompson.

335. SEMINAR IN ENVIRONMENTAL SYSTEMS.

Not offered, 1976-77.

Systems analysis and models related to environmental management. Programming experience required. Full course. Mr. Howard.

341. SEMINAR IN ENDOCRINOLOGY.

Full course, Semester 1. Mr. Curtis.

347. CENTRAL NERVOUS SYSTEM. Not offered, 1976-77.

The functional organization and physiology of selected neural networks in the central nervous system of certain vertebrate and invertebrate animals. Neuronal systems will include the cerebellum, cerebral cortex and spinal cord of mammals and the central ganglia of molluscs and arthropods. In these

discussions, the role of command fibers and central oscillators in initiating stereotyped behaviors and biological rhythms in lower animals will be examined. Full course. Mr. Sherman.

350. GRADUATE SEMINAR.

Full course.

Semesters 1, 2, Modular Term. Staff.

360. MASTER'S THESIS.

Variable credit.

Semesters 1, 2, Modular Term. Staff.

390. DOCTORAL DISSERTATION.

Variable credit.

Semesters 1, 2, Modular Term. Staff.

Chemistry

DEPARTMENT FACULTY

Harry C. Allen, Jr., Ph.D., Professor of Chemistry, Department Chairman

Edward N. Trachtenberg, Ph.D., Professor of Chemistry Wen-Yang Wen, Ph.D., Professor of Chemistry. Daeg S. Brenner, Ph.D., Associate Professor of Chemistry Karen L. Erickson, Ph.D., Associate Professor of Chemistry Alan A. Jones, Ph.D., Assistant Professor of Chemistry Donald J. Nelson, Ph.D., Assistant Professor of Chemistry Albert M. Gottlieb, Ph.D., Assistant Professor of Physics. Adjunct Assistant Professor of Chemistry

Affiliated Staff

Marcel Gut, Ph.D., Professor of Chemistry (Affiliate) Elias Meymaris, Ph.D., Assistant Professor of Chemistry (Affiliate)

UNDERGRADUATE PROGRAM

The Chemistry Department offers a series of programs with the following goals in mind.

- 1) Make it possible for the chemistry major to complete his major requirements in three years without lowering academic standards.
- 2) Offer a variety of first-year chemistry courses so that a student may enter a chemistry program at a number of levels.
- 3) Increase the number of offerings available to students not majoring in chemistry or the sciences.
- 4) Offer a range of chemistry courses with an emphasis in environmental and health related fields.
- 5) Offer a program for chemistry majors which will prepare students for environmental and health related careers.

The requirements for the chemistry major are two courses in mathematics beyond Mathematics 11, two courses in physics (Physics 12 and 19) and eight courses in chemistry and related fields beyond Chemistry 12, 100b or 102b. These courses must

include:		Course
Course	Number	Credit
Organic Chemistry	130 or 132	2
Inorganic Chemistry	150	1
Physical Chemistry I	160	1
Physical Chemistry II or	162	
Biophysical Chemistry	164	1
Analytical Chemistry or	140	
Environmental Chemistry	142	1
		Total 6

The remaining two-course requirement may be met either by advanced chemistry courses or, with the permission of the Chemistry Department, by appropriate courses in mathematics, physics, and biology.

Students wishing to be accredited by the American Chemical Society should consult the department chairman with regard to specific course requirements.

Students planning graduate study in chemistry are urged to take Chemistry 135, 200, 230, and/or advanced mathematics, physics, and biochemistry courses, depending on the area of interest. A reading knowledge of German, French, or Russian is also recommended. All chemistry majors are encouraged to undertake independent research projects either as a candidate for honors (Chemistry 215) or in a special projects course (Chemistry 214) and may do so after completing Chemistry 160.

A student may elect as his/her first course in Chemistry — Chemistry 10, 12, 100, 102, 130, or 132. The decision to start with Chemistry 12, 130, or 132 (all accelerating options) must be made in consultation with the department and may require taking a placement examination offered at the beginning of the academic year.

GRADUATE PROGRAM

The department offers programs leading to the degrees of Master of Arts and Doctor of Philosophy with specialization in various fields of chemistry and in chemical physics. Emphasis is placed on tailoring programs to fit the specific needs and desires of the graduate student. To facilitate this goal, a committee of interested faculty works with each student to advise and review his/her progress in research work and, together with the student, defines the formal course work requirements. In the case of master's degree candidates, the requirements are essentially those of the University as stated elsewhere in the catalog. Up to one year's equivalent of teaching apprenticeship will be required of all candidates for advanced degrees.

In addition to formal course work, the student must pass qualifying and preliminary examinations, and the department language requirement must be met. For further details, students should consult the appropriate departmental publications.

Graduate scholarships, teaching assistantships, and research fellowships are available. Further information on these awards may be obtained from the department chairman.

COURSES

10. CHEMISTRY FOR THE CONCERNED CITIZEN.

This one-semester, relatively non-mathematical course is designed for incoming students and is intended to develop a qualitative feeling about chemistry as it relates to the modern world. Approximately half of the course is concerned with the development of modern chemical thought, while the remainder deals with current societal problems such as nuclear weapons and reactors, air and water quality, drugs, food additives, polymers, poisons, and others. Laboratory experiments using simple chemical techniques familiarize students with testing procedures for environmental, food and other samples of interest. Students are encouraged to analyze samples of their own choosing in the laboratory. Although the course is not designed for science majors, students can, without loss of time, enter Chemistry 12 or Chemistry 132a (with the extra recitation). Three lectures and one three-hour laboratory per week. Full course, Semester 1. Mr. Brenner.

12. FUNDAMENTALS OF CHEMISTRY.

This mathematical course on the major principles of chemistry, which is at the same level of sophistication as Chemistry 100 or 102, is designed to accelerate students whose high school background in chemistry and mathematics is sufficiently good so that they do not require a full year of General Chemistry in order to qualify for Organic Chemistry. Three lectures and one four-hour laboratory per week.

Full course, Semester 1.

Mr. Brenner.

100. INTRODUCTORY CHEMISTRY.

This systematic study of the elements and their principal compounds and of the fundamental laws and theories of chemistry is designed as an introduction to the field of chemistry. A knowledge of high school algebra is necessary; high school chemistry and physics, though helpful, are not required. This course is designed to meet the needs of chemistry majors, students interested in biology, physics, medicine, and dentistry as well as those seeking a knowledge of chemistry as part of their liberal arts education. Three lectures, one recitation and one four-hour laboratory per week. Two lecture sections with enrollment in each limited to 65.

Full course. Mr. Nelson. Semesters 1, 2. Mr. Trachtenberg.

102. INTRODUCTORY CHEMISTRY.

This course is identical to Chemistry 100 except that it will meet for three lectures, one recitation and one four-hour laboratory per week during Semester 2 and for six lectures, two recitations and two four-hour laboratories per week during Modular Term. Enrollment limited to 65.

Full course, Semester 2, Modular Term. Mr. Brenner.

130. ORGANIC CHEMISTRY.

The lectures emphasize the synthesis and reactions of organic compounds, structure determination, and reaction mechanisms. The laboratory concentrates on the preparation and physical, spectral, and chemical properties of important classes of organic compounds. Prerequisite: Chemistry 12 or 100 or 102 or advanced placement. Three lectures and one four-hour laboratory per week.

Full course, Semesters 1, 2. Ms. Erickson.

132. ORGANIC CHEMISTRY.

This course is identical to Chemistry 130 except that it is also open to students who either almost qualify for advanced placement on the basis of examination or who have completed Chemistry 10. Students in these categories must attend an additional recitation each week during which topics in general chemistry will be reviewed; other students may also attend these recitations if they wish. Three lectures and one four-hour laboratory per week during Semester 2 and six lectures and two four-hour laboratories per week during Modular Term.

Full course, Semesters 1, 2, Modular Term. Mr. Trachtenberg.

135. QUALITATIVE ORGANIC ANALYSIS.

This laboratory study of the identification of organic compounds utilizes both classical and modern instrumental techniques.

Prerequisite: Chemistry 130 or 132 or consent of the instructor.

One hour conference and seven hours of laboratory per week.

Full course, Semester 1.

Ms. Erickson.

140. ANALYTICAL CHEMISTRY.

This course covers both the theoretical principles and technical methods employed in determining the qualitative and quantitative composition of matter. Laboratory options are offered for those students whose primary interest is in molecules of a clinical or biological nature as well as for those students whose primary interest is in more classical chemistry itself. Preor corequisite: Chemistry 162.
Full course, Semester 2.

Mr. Jones.

142. ENVIRONMENTAL CHEMISTRY.

This study focuses on the chemistry related to environmental problems such as air and water pollution from fossil fuels, pesticides, metals, food additives, and solid wastes. The laboratory primarily will make use of analytical techniques. Prerequisite: Chemistry 100. Two lectures and one laboratory per week.

Full course, Semester 1.

Mr. Jones.

150. INORGANIC CHEMISTRY.

Included in this descriptive chemistry course of the elements are such topics as acid-base theory and ligand field theory.

Prerequisite: Chemistry 12, 100, or 102 or equivalent. Two lectures and one four-hour laboratory per week.

Full course, Semester 2.

Mr. Allen.

160. PHYSICAL CHEMISTRY I.

The lectures cover principles of physical chemistry applied to gases, liquids, and solids; chemical thermodynamics; solution chemistry. The laboratory includes experiments in physical chemistry techniques of measurement and technical report writing. Prerequisite: Mathematics 12 and either Chemistry 12, 100, or 102. Chemistry 130 or 132 is suggested as a pre- or corequisite. Pre- or co-requisite: Physics 12 or a strong high school background in physics and enrollment in the recitation part of this course. Three lectures, one four-hour laboratory and one optional recitation per week.

Full course, Semester 1.

Mr. Wen.

162. PHYSICAL CHEMISTRY II.

The topics covered in this continued discussion of the principles of physical chemistry are electrode processes, chemical kinetics, and atomic and molecular spectroscopy. Prerequisite: Chemistry 160. Three lectures and one four-hour laboratory per week.

Full course, Semester 2.

Mr. Wen.

164. BIOPHYSICAL CHEMISTRY.

This rigorous course in physical chemistry, offered as an alternate to Chemistry 162, emphasizes the physical chemistry of biological systems: enzyme kinetics, spectroscopy of biological systems, macromolecules, transport processes, x-ray diffraction. Prerequisite: Chemistry 160. Three lectures and one four-hour laboratory per week.

Full course, Semester 2.

Mr. Nelson.

200. PHYSICAL CHEMISTRY III.

This is essentially an introduction to quantum mechanics and covers elementary quantum-mechanical treatment of the structure of atoms and molecules. Three lectures and one discussion per week. Prerequisites: Chemistry 160 and 162 or

Full course, Semester 1.

Mr. Allen.

210. PHYSICAL CHEMISTRY IV.

The course deals with the application of group theory to problems of chemical interest such as molecular vibrations, hybrid orbitals and molecular orbital theory. Three lectures and one discussion per week. Prerequisite: Chemistry 200 or equivalent.

Full course, Semester 2.

Mr. Allen.

214. SPECIAL PROJECTS.

Individual investigations involve laboratory and/or literature research.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

215. HONORS COURSE.

The honors course, primarily for majors seeking departmental honors in chemistry, involves a laboratory research project and participation in departmental seminars.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

220. POLYMER SCIENCE.

The physical chemistry of synthetic polymers will be presented including discussion of kinetic mechanisms of polymerization,

molecular weight distributions, unperturbed dimensions, structure and conformation, viscosity, and dynamic properties. Specific experimental methods useful in polymer chemistry such as osmotic pressure, light scattering, gel permeation chromatography, viscoelastic response, nuclear magnetic resonance, and dielectric response will also be reviewed. The text will be *Principles of Polymer Chemistry* by the 1974 Nobel Laureate, Paul J. Flory.

Half course, Modular Term.

230. PHYSICAL ORGANIC CHEMISTRY.

This is a lecture course on the fundamentals of organic chemistry including molecular structure, acidity and basicity, kinetics, and mechanisms with emphasis on the most recent advances in organic chemical theory. Prerequisites: Chemistry 130 or 132, 160 or consent of the instructor.

Full course, Semester 1.

Mr. Trachtenberg.

242. NUCLEAR SCIENCE.

This course covers the fundamentals of nuclear chemistry and physics: production, isolation, identification, and measurement of radioactive atoms. Three lectures and three laboratory hours per week. Prerequisite: consent of the instructor.

Full course, Semester 2. Mr. Brenner.

268. PRINCIPLES OF PHARMACOLOGY.

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. Prerequisite: Chemistry 132. Corequisite: Biology 270. See also Biology 268.

Full course, Semester 1.

Mr. Nelson, Mr. Brink.

280. INSTRUMENTAL METHODS.

This laboratory course covers the principles and application of modern instrumental techniques to the separation and analysis of mixtures and for the characterization of pure compounds. Two lectures and six laboratory hours per week. Prerequisite: consent of the instructor.

Half course, Modular Term.

Mr. Brenner.

300. RESEARCH.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

312. INORGANIC CHEMISTRY.

This is an advanced treatment of theoretical and descriptive inorganic chemistry. Prerequisite: consent of the instructor. Full course.

Mr. Allen.

322. THERMODYNAMICS.

This lecture course discusses applications of classical thermodynamics to chemical systems.
Full course. Mr. Wen.

323. STATISTICAL MECHANICS.

This lecture course treats statistical mechanics as a bridge between molecular properties and thermodynamic functions; with applications to chemical systems. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Wen.

333. SYNTHETIC ORGANIC CHEMISTRY.

Not offered, 1976-77.

These lectures on synthesis of organic molecules emphasize scope and limitations of general methods, mechanism and

stereochemistry, synthesis of carbon to carbon bonds, oxidation, and reduction. Prerequisite: Chemistry 230, or consent of the instructor. Offered in alternate years.

Full course.

Ms. Erickson.

335. NATURAL PRODUCTS.

The chemistry of selected naturally occurring compounds. Includes structure determination, synthesis, mechanistic interpretation of exotic transformations, and biogenetic theory. Prerequisite: consent of the instructor. Offered in alternate years

Full course.

Ms. Erickson.

340. QUANTUM CHEMISTRY.

This course in elementary quantum mechanics covers simple systems, properties of wave functions, and approximation methods for complex systems.

Full course.

Mr. Allen.

341. ADVANCED QUANTUM CHEMISTRY.

This is a more sophisticated continuation of quantum chemistry: approximation methods, atomic states, spectroscopy, and molecular methods. Prerequisite: Chemistry 340 or consent of the instructor.

Full course.

Mr. Allen.

344. SELECTED TOPICS IN ADVANCED NUCLEAR CHEMISTRY.

This is a discussion of the current experimental and theoretical literature in nuclear reactions, fission, and nuclear spectroscopy. Prerequisite: Chemistry 242 or its equivalent. Full course.

Mr. Brenner.

350. SEMINAR.

This seminar consists of reports on research work and discussions of recently published work.

No credit. Guest Lecturers, Staff, and Graduate Students.

360. COORDINATION COMPOUNDS.

This advanced course in inorganic chemistry treats chemical and physical properties of complexes: theories of coordination, stereoisomerism, reaction mechanisms, and solution stabilities. Offered in alternate years.

Full course, Semester 1.

Mr. Allen.

361. MOLECULAR STRUCTURE.

This is a lecture course on physical methods relevant to the determination of the structure of molecules (x-ray, electron diffraction, magnetic resonance, electronic properties, etc.). Prerequisite: consent of the instructor. Offered in alternate years.

Full course, Semester 2.

Mr. Jones.

369. ELECTRONIC SPECTROSCOPY.

This is an introduction to the study of ultraviolet and visible absorption spectra as well as emission spectra. Prerequisite: consent of the instructor. Offered in alternate years.

Full course.

Mr. Wen.

379. SPECIAL TOPICS.

This seminar course consists of research and literature; reports by graduate students.

Full course.

Staff.

380. RESEARCH CONFERENCE.

This conference consists of informal reports of research work being done in the laboratory.

No credit.

Staff, Graduate Students.

Classics

PARTICIPATING FACULTY

Paul F. Burke, Ph.D., Assistant Professor of Classics

The following courses in Classical Humanities are taught in English and are recommended to students as part of their general education and to majors in Comparative Literature, English, Foreign Languages and Literatures, Fine Arts, History, Music, and Philosophy. Courses in Greek and Latin on all levels may be taken at College of the Holy Cross through the Consortium.

COURSES

Classics 120. INTRODUCTION TO CLASSICAL CIVILIZATION.

A survey of ancient Greek and Roman culture and history covering: the Bronze Age civilizations of Crete and Mycenae; the Classical Greek city-states; the conquests of Alexander; the Roman Republic and Empire; the end of the ancient world and the beginnings of Christian Europe. Readings in the works of ancient authors in translation will be chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archaeology, will be illustrated by slides. Full course, Semester 1.

Classics 124. GREEK AND ROMAN MYTHOLOGY.

A study of ancient Near Eastern, Greek, and Roman literary texts (along with some modern ones) which are particularly useful for gaining an understanding of the function of myth in Greco-Roman antiquity as a vehicle for artistic communication and social commentary. The archaeological and anthropological background of the ancient world will be sketched in and the religious and philosophical implications of myth will be discussed. The course will pay particular attention to the influence of ancient mythology on later European culture, especially literature and art. Various modern approaches to myth analysis will be touched upon: structural, psychoanalytical, literary. Many of the lectures will be illustrated by slides. Full course, Semester 1.

Classics 135. GREEK AND ROMAN DRAMA.

A literary survey of ancient drama conducted through the reading of plays by Aeschylus, Sophocles, Euripedes, Aristophanes, Plautus, Terence, and Seneca. Topics to be considered will include: the origins of drama in religion and myth, the evolution of tragedy and comedy, poetic and dramatic structure, character portrayal and staging, the purpose and place of drama in ancient society.

Full course, Semester 2.

Mr. Burke.

Classics 140. ANCIENT EPIC.

A survey of the epic as a literary form which will treat: the nature of oral poetry and literary epic, the changing nature of the hero, the place of myth in epic, techniques of composition and literary style, epic in relation to other literary forms, characterization, narrative technique, and the place of epic in its social context. Readings in translation will include Gilgamesh, Homer's Iliad and Odyssey, Apollonius of Rhodes' Argonautica, Virgil's Aeneid. Reference will also be made to mock-epic or anti-epic, such as Ovid's Metamorphoses and Petronius' Satyricon, and to some later works such as Beowulf and the Song of Roland.

Full course, Semester 2.

Mr. Burke.

Classics 150. NARRATIVE IN ANCIENT HISTORICAL WRITING.

A survey of ancient modes of writing and interpreting history, By reading selected works of ancient authors in translation. students will examine the influence of myth, propaganda, and rhetorical stereotyping on the portrayal of characters and events in ancient biographical and historical writing. Topics considered will include: narrative and stylistic technique. rhetoric, character portrayal, propaganda and reliability, the manipulation of events for artistic purposes, the effect of the author's intent on his work and the presence or intrusion of the author's personality. The course will require reading, in translation, selections from Herodotus' History, Thucydides' History of the War between Athens and Sparta, Plutarch's Lives, Josephus' History of the Jewish War, Caesar's Commentaries, Tacitus' Annals and Histories, and works by Christian writers of the later Roman Empire, Reference will also be made to Old and New Testament ideas of patterns and purpose in history and to poetic treatments of history by authors such as Homer and Virgil. Full course, Semester 2. Mr. Burke.

Comparative Literature

PARTICIPATING FACULTY

Raymond E. Barbera, Ph.D., Professor of Romance Languages, Program Chairman

Walter Schatzberg, Ph.D., Professor of German Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish Kenneth Hughes, Ph.D., Associate Professor of German Hartmut Kaiser, Ph.D., Associate Professor of German J. Fannin King, M.A., Associate Professor of Romance Languages

Michael K. Spingler, Ph.D., Associate Professor of French Paul F. Burke, Ph.D., Assistant Professor of Classics Dorothy K. McCall, Ph.D., Assistant Professor of French Irene Kriskijans, Ph.D., Lecturer in Russian

UNDERGRADUATE PROGRAM

The Major in Comparative Literature

The major in Comparative Literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program which in turn reflects the broadest possible frame in which to pursue his study of literature.

Requirements

1) No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases towards the fulfillment of the language course requirement.)

2) Suggested sequence of core courses in Comparative

a) ideally, the student should have taken Problems in Comparative Literature (C.L. 101) or Critical Approaches to Literature (C.L. 190) by the end of the sophomore year, although this recommendation does not preclude taking either at a later time.

b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (C.L. 230), Elements of Narrative (C.L.240) or English Poetry (English 13). Again, in certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the advisor.

c) While a student may wish to devote his senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar on Literary Theory and Practice (C.L. 251).

3) A number of related courses varying from five to eight. depending on the student's range of interests, are to be selected by the student in consultation with his/her faculty advisor.

UNDERGRADUATE/GRADUATE PROGRAM

The three-year BA/MA Program in Comparative Literature is available to students who have completed the sophomore year, who have a good background in at least one foreign language (French, German, Spanish), and who have a demonstrated interest in literature and literary criticism.

In order to achieve the general objective of the program the highly literate student of literary criticism — and to permit a common ground for discussions in the Colloquium on Literary Problems, the following sequencing of required core courses is suggested when possible. Exceptions will be made where special situations prevent this sequencing

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1.	Critical Approaches	(1	unit
2.	Elements of Narrative	(1	unit
3.	Problems in Drama	1	unit

4. Seminar in Literary

Theory and Practice (2 units)

Reading lists will be made available to all students upon their acceptance into the program. These lists will assure that students are exposed to the same sources and methodologies and make available a common vocabulary to enable participation in the discussions that form a regular and indispensable part of the process of critical awareness and investigation. The four core courses are integrated and designed to offer to students an exposure to critical ideas that will enable them to meet on common ground to actively consider the validity of ideas and methods. The three-year program beginning with the junior year is, in effect, an investigation of the nature of criticism as it applies to literary works. Fluency in that area, therefore, is the goal.

The Colloquium on Literary Problems

An indispensable part of the program is the Colloquium. It is in effect a forum where students and faculty meet one evening every two weeks to discuss problems ranging from modifications and evaluation of the program itself to discussion of critical problems in literary works. The Colloquium allows the students the opportunity to express their ideas and to test them in the presence of their peers. It is designed to allow a free discussion of ideas which, however, involves careful preparation. First-year students who have yet to take the core courses will find themselves among students who have completed their first and second years and also among those who are writing their theses. As a consequence, the Colloquium, besides soliciting discussion, serves as a learning-teaching experience with students progressing from the learning to that of the teaching experience.

Required Courses in Addition to Core Courses

It is basic to the philosophy of the program that each candidate become fluent in at least one foreign language. To this end, each candidate is to take six courses either in a foreign literature (German, French, Spanish) in the original language or. where students have a command of more than one foreign language, in a combination of the two if desired. Such expertise would preclude the parochialism of a monolinguist. It would

indeed by an anomaly that a comparatist should function on the basis of his native language alone. Students with a good language background are encouraged to learn more than one foreign language. A number of students presently enrolled in the program find themselves in this category.

Teaching Internship

A teaching internship will be available for qualified students in the final year. Interns will serve as instructors and discussion leaders in foreign language, foreign literature, and comparative literature courses and will be involved in the course in its entirety. The internship may also involve participating in the direction and production of a foreign language play.

The M.A. Thesis

The thesis is the culmination of the student's work in his/her critical and comparative studies of literature and related areas throughout the junior and senior years. Before the end of the senior year the student will present a thesis proposal to an advisory committee and to the Colloquium for discussion and development. Ideally an integrated program of studies from the beginning of the junior year will lead naturally to the selection and execution of a thesis topic during the final year by a student who will have developed his/her own area of interests and who will have acquired both sensitivity and critical awareness in the analysis of literary texts and problems.

Financial Aid

Some partial and full tuition remission scholarships will be available in the final year of the program. Several teaching assistantships will also be available to students involved in the teaching internship in their final year. All awards will be based upon merit and need.

COURSES

Comparative Literature 110. PROBLEMS IN COMPARATIVE LITERATURE.

An introductory course in comparative studies of literature from a problem-oriented perspective. The course will revolve around five major issues:

- 1) The Tragic View
- 2) The Challenge of Faith
- 3) Man the Measure
- 4) The Search for Identity
- 5) The Esthetics of Ambiguity

Readings will include selections from Sophocles, Job, Pico, Pascal, Pope, Nietzsche, Mann, Hofmannsthal, Rilke, Hesse, Kafka, Joyce, Bernanos, Beckett, and Cortazar. Recommended for freshmen and sophomores.

Full course, Semester 1.

Mr. Schatzberg.

Comparative Literature 118. LITERATURE AND THE NATURE OF MAN. Not offered, 1976-77.

Ideas held by outstanding literary artists of the Western World concerning the nature of man and his relation to the universe. The works are also to be studied as representative of the cultures of which they are products. The subject matter discussed includes Sophocles' Oedipus the King, The Book of Job, Dante's Divine Comedy, Shakespeare's King Lear, Milton's Paradise Lost, Moliere's Misanthrope, Goethe's Faust and selected poems of T.S. Eliot. All non-English works are read in translation. Admission subject to the consent of the instructor. Full course.

Mr. King.

Comparative Literature 180. IRRATIONAL CURRENTS IN CONTEMPORARY THEATRE. Not offered, 1976-77.

A study of the preoccupation in modern theatre with "primitive" forms of dramatic expression such as ritual, myth, magic, nonverbal communication, theatre as a form of popular psychotherapy.

Full course.

Mr. Spingler.

Comparative Literature 185. READINGS IN MODERN FICTION. Not offered, 1976-77.

A study of modernism in fiction, with emphasis on the short story and novella. Works by continental, English, and American writers from the mid-nineteenth century to the present — Dostoevsky, Tolstoy, Conrad, Lawrence, Joyce, Faulkner, Mann, Sartre, and others.

Full course.

Ms. McCall.

Comparative Literature 190. CRITICAL APPROACHES TO LITERATURE.

This course introduces students to a wide variety of critical approaches which have been taken toward literature. Although some Neo-Classical and Romantic criticism is discussed, the emphasis is on those postures characteristic of the twentieth century and which the student is most likely to encounter and to find fruitful for the development of his own critical responses: the psychological approaches of Freud and Jung, the historical and Marxist methodologies, existentialist interpretations, the "intrinsic" approach of the New Criticism, the perspectives of literary sociology and others.

Full course, Semester 1.

Mr. Hughes.

Comparative Literature 210. THE LITERARY HERO. Not offered, 1976-77.

As early as 1499, in European literature, a harlot becomes the heroine of a major work. The intrusion of characters of less than heroic stature is an innovation that merits some study. Beginning with the *Celestina*, and followed by a number of works including *Lazarillo de Tormes* and *Moll Flanders*, an attempt will be made to trace the increasing importance of characters of "piccola nazione" in the literary work. Heroic qualities yield to their opposite. The questions and problems that arise as a result of such a displacement will be the subject of analysis and commentary.

Full course.

Mr. Barbera.

Comparative Literature 215. MARXISM AND ART.

The course considers two sides of the relationship of Marxism to art: (1) how, as a philosophical foundation of political entities, Marxism affects the kinds of art produced under its sponsorship; and (2) the kinds of critical theories and strategies which, as an analytical tool, Marxism generates. The course presents a broad survey of Marxist considerations of art and literature. Among the topics discussed are: the alternation of cultural repression and "thaw," the historical development of art theory from Marx to the present, Stalinism and the distortion of the human image in Marx, the theory and practice of socialist realism, the critique of modernism and formalism, and the alienation of the artist in contemporary capitalist and socialist society. A basic acquaintance with both the classics of Marxist thought and the fundamentals of literary and art criticism is presupposed. Full course, Semester 2. Mr. Hughes.

Comparative Literature 225. POLITICS AND THE NOVEL.

A study of the relationships between private imagination and social consciousness; the structure of Idea in a novel; tensions of political and literary language; revolution as nostalgia, as heroic possibility, as dream and as nightmare. Readings will include Diderot, Rameau's Nephew; Stendhal, The Red and the Black; Dostoyevsky, The Possessed; Malraux, Man's Fate; Doris Lessing, The Golden Notebook; Robert Penn Warren, All the King's Men. Reference will be made throughout the semester to relevant historical and theoretical texts. Students will be expected to develop a research project on the subject of the course as it relates to their particular field of interest. Full course, Semester 1.

Comparative Literature 226. EROS AND FEMINISM.

A study of the meaning of Eros from an interdisciplinary perspective, exploring problems and creative possibilities in the tension between our need for union and our need for separateness. Emphasis will be on the feminist effort to transform traditional notions of love, sexuality, and the meaning of private life. The course is intended as a workshop for upperclass and graduate students. Each student will be expected to give an oral report in her or his particular discipline, to be developed into a research project. Students will also be asked to keep a journal, recording impressions of class discussion and reading in light of their own experience. Texts will include Plato. Symposium; Erich Neumann, Amor and Psyche; Women and Analysis (essays by Freud, Emma Jung, Horney, Mitchell, and others); Engels, Origins of the Family; Kate Chopin, The Awakening; D.H. Lawrence, Lady Chatterley's Lover; John Barth, Chimera; Isadora Duncan, My Life; Emma Goldman, Living My Life; feminist essays on love by Goldman, Beauvoir, Greer, Firestone, Helene Cixous. Prerequisite: consent of the instructor.

Full course, Semester 2.

Ms. McCall.

Comparative Literature 230. ELEMENTS OF DRAMA. Not offered, 1976-77.

An exploration of ways of approaching the dramatic text based on the conditions and problems peculiar to the stage. Through the study of representative plays from major dramatic periods, the course will investigate the nature of such concepts of dramatic analyses as Plot, Character, Dialogue, and Enactment as well as such elements of dramatic aesthetics as Tempo, Mode, Image and Sequence of Impressions. The particular nature of the points of view of playwright, director, actor, and spectator will be investigated. Full course. Mr. Spingler.

Comparative Literature 235. PROBLEMS IN DRAMA: MYTH AND STRUCTURE.

A study of the ways in which myth is articulated through specific dramatic structures. The peculiar character assumed by myth when it is embodied in the theatre will be the subject of analysis and discussion. We will concentrate on myth not as familiar and ancient story but as the contemporary and commonly, if sometimes subconsciously, held beliefs of a culture. Plays for analysis will be chosen from the following: Aeschylus, The Eumenides, Euripedes, Hippolytus, O'Neill, Desire Under the Elms, Mourning becomes Electra, Shakespeare, King Lear, Ibsen, Ghosts, Lorca, Blood Wedding, Ghelderode, The Chronicles of Hell. Ionesco, Jack or the Submission. This course is part of the Integrated Program of Humanistic Studies. Full course, Semester 1. Mr. Spingler.

Comparative Literature 237. THE LANGUAGES OF THEATRE.

A study of the function of sign and symbol in the articulation of meanings in the theatre. Particular attention will be paid to the roles of non-verbal communication in theatrical presentation, especially mask, gesture, sound, rhythm, movement. Examples from Japanese Noh and Kabuki will be studied as modes of expression which may serve as alternatives to those most familiar to Western audiences. Plays and criticism will include Sophocles' Oedipus, Shakespeare's Tempest, and Richard II, Cocteau's The Eiffel Tower Wedding Party, and Orpheus, Jarry's UBU Roi, Artaud's The Theatre and its Double, Grotowski's Towards a Poor Theatre, Genêt's The Balcony, Pinter's The Homecoming. May be taken as a sequence to Comparative Literature 235.

Full course, Semester 2.

Mr. Spingler.

Comparative Literature 240. ELEMENTS OF NARRATIVE.

1977 theme: Fiction and Film. Exploration of the structural affinities between fiction and film. Comparison and cognates in the rhetoric of fiction and that of the film. Particular attention will be paid to the nature of film adaptation of narrative works as well as the impact of the cinema on 20th century narrative. Readings of selected novels, short stories, and film scripts, as well as a consideration of critical methodology as it enhances the understanding of narrative structure in both fiction and film. Full course, Semester 2. Mr. D'Lugo.

Comparative Literature 251. SEMINAR IN LITERARY THEORY AND PRACTICE.

This core course is required of candidates in the B.A./M.A. Comparative Literature Program and is open to majors in Comparative Literature with permission of the instructor. The course will attempt to answer some fundamental questions concerning the nature, meaning, and significance of literature. Literature as a body of material defies exact definitions or rules. The course will necessarily be tentative and exploratory and problems arising from disputed views through the centuries will be considered. A limited number of works will be studied as problematical texts. Indivisible.

Full course, Semester 1. Full course, Semester 2.

Mr. Barbera.

Comparative Literature 256. COLLOQUIUM ON PROBLEMS.

An ongoing colloquium designed to consider the formulation and resolution of problems in comparative literature. (Prerequisite: open to and required of students accepted into the Comparative Literature Program).

Computer Science

The courses in the area of Computer Science listed below are available to Clark students. They involve the use of the Xerox 530 Computer System located on campus. Other computer science courses are available through the Worcester Consortium.

101. INTRODUCTION TO COMPUTER PROGRAMMING.

An introductory programming course designed for students with no mathematics beyond high school algebra. The emphasis of the course will be on using the computer and the FORTRAN IV programming language as a tool for solving problems in any discipline. Students develop a working knowledge of character representation and manipulation, number representation and arithmetic, subroutines and functions, arrays and indexing, compilers and loaders, and most of all structured programming techniques and algorithms that make programming easier. Full course, Semester 1. Ms. Goodman.

102. COMPUTER APPLICATIONS.

Advanced topics in computer use are covered including searching and sorting, file design, recursion, lists, stacks, and queues. Several projects requiring programming skill are assigned. Prerequisite: Computer Science 101 or consent of instructor.

Full course, Semester 2.

Ms. Goodman.

103. INTRODUCTION TO COBOL PROGRAMMING.

The concepts of Cobol, today's most widely used programming language for business applications, are introduced. The student is expected to complete a number of programming assignments during the course. Prerequisite: Computer Science 101 or consent of the instructor.

Full course, Semester 2.

Mr. Larson.

140. ASSEMBLER LANGUAGE PROGRAMMING.

Not offered, 1976-77.

This course is designed to enable the student to write substantive programs in assembler language for the Xerox 530. While a knowledge of a higher level language is not necessary, some familiarity with computer operations would be helpful. Otherwise, permission of the instructor is required. Full course.

201. ADVANCED COMPUTER PROGRAMMING.

This course is designed for students with previous programming experience. Each student is expected to select and carry to completion a project requiring substantive computer analysis in machine language, assembler, or any higher level language. Variable credit.

Semesters 1, 2.

Staff.

Mathematics 118. FORTRAN FOR SCIENCE STUDENTS.

Refer to course description under Mathematics.

Mr. Stubbe.

Mathematics 119. ELEMENTARY NUMERICAL ANALYSIS.

Refer to course description under Mathematics.
Mr. Stubbe.

Mathematics 120. LINEAR PROGRAMMING.

Refer to course description under Mathematics. Mr. Tepper.

Mathematics 135. PATTERN RECOGNITION.

Refer to course description under Mathematics.

Mr. Stubbe.

Geography 212. COMPUTER PROGRAMMING.

Refer to course description under Geography.

Mr. Howard.

Economics

DEPARTMENT FACULTY

Roger C. Van Tassel, Ph.D., Professor of Economics, Department Chairman

Howard W. Nicholson, Ph.D., Professor of Economics

Attiat F. Ott, Ph.D., Professor of Economics

E.C.H. Veendorp, Ph.D., Professor of Economics

George E. Hargest, M.B.A., Associate Professor of Economics, Emeritus

Robert C. Hsu, Ph.D., Associate Professor of Economics Frank W. Puffer, Ph.D., Associate Professor of Economics, Dean of Academic Affairs

Maurice D. Weinrobe, Ph.D., Associate Professor of Economics Don M. Shakow, Ph.D., Assistant Professor of Economics Jang H. Yoo, Ph.D., Assistant Professor of Economics (on leave) Peter Sloane, Ph.D., Associate Professor of Economics (Affiliate)

UNDERGRADUATE PROGRAM

The undergraduate program is designed to give the student a comprehensive grasp of the underlying principles and functions of economic institutions, and to develop habits of systematic thought.

Goals of the Major

The rationale for economics majors can be stated briefly and simply. We believe economics offers a useful insight into a better understanding of fundamental human behavior in the decision-making process and a great variety of national economic issues. While we recognize that economics alone seldom gives answers, we also feel that there are few issues, at least in the social sciences, where the contribution of fairly formal economic analysis does not play a necessary role. There are obviously some advantages in an economics major besides its more broadly accepted educational value. It is a good preparation for law, business, and a number of other professional and not so professional careers. However, the emphasis of our program, and its rationale, is the educational one. The major in economics is clearly devised to help the student think and develop. The student takes a sequence of courses that should develop an appreciation of both the strengths and limitations of the subject. Finally, a student "who gets it all" in his first course, has really accomplished much of this objective. For almost everyone, however, some repetition, reinvolvement, and greater experience in additional and more advanced courses is required to develop the necessary mixture of confidence and competence.

Economics 10, Issues and Perspectives, is prerequisite for all "100"-level courses and for Economics 11, Principles of Economics. Economics 11 is prerequisite for "200"-level courses in the department. All majors in economics must take Economics 10, Economics 11, and Economics 205.1 and 205.2, Intermediate Theory. Economics 160, Statistics, is strongly recommended for all majors and required for some tracks. Students in their last three years must take no less than 50% nor more than 80% of their work in economics and courses appropriate to extended majors.

Under the extended major, students may elect a variety of options. These options are built on the common core of analysis required of all majors and "extend" to include a coherent program of courses offered within the department and in related departments. Among the options are: pregraduate, business, political economy, development, prelaw, environmental affairs, and science, technology and society.

The department offers two separate honors programs. Selected students may engage in independent study off-campus for a semester and summer, preferably during the junior year. These students work for business firms or government agencies in applied economic research. A semester's credit is awarded. In addition there is an on-campus program. Juniors in their second semester take an honors course and, as seniors, may continue and complete the honors program with the writing of a senior thesis.

Some courses may be offered only in alternate years. Detailed course descriptions are available at the department office and at the Registrar's Office.

GRADUATE PROGRAM

The University offers facilities for graduate study and research leading to the Master of Arts and Doctor of Philosophy in Economics and with the cooperation of the Department of Management, to the Master of Arts in Applied Economics.

Graduate students may elect to take a limited amount of work in related courses offered by other departments.

Scholarships and fellowships are available for a limited number of well-prepared students. These appointments exempt their holders from tuition fees and some carry stipends in varying amounts. Several teaching assistantships are also awarded which enable graduate students to gain experience in undergraduate instruction. These carry remission of tuition and a cash payment, up to \$3,200 for part-time work (one-half).

MASTER OF ARTS PROGRAM

Students interested in the application of economics to

operational situations in business and government are encouraged to enroll in the M.A. program in applied economics. This program is built around a core of economic theory and econometrics plus a choice of applied business fields, actual onsite research — consulting experience and a thesis. With adequate prerequisites, full-time students can complete this program in one year.

Students enrolled in the Ph.D. program may be awarded the M.A. degree upon satisfactory completion of the three Ph.D. "special fields"; or, in the case of students who do not continue toward the Ph.D., upon satisfactory completion of an approved program of course work, the writing of an M.A. thesis and an oral examination.

A student should discuss his/her plans with the graduate student advisor on or before registration day and secure approval of his/her course program.

DOCTOR OF PHILOSOPHY PROGRAM

Two full academic years of graduate work, or its equivalent in part-time work, is necessary for admission to Ph.D. candidacy. One of these years must be spent in residence at Clark University. In residence is broadly defined as work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

All candidates for the Ph.D. in economics are required to demonstrate proficiency in Econometrics and Mathematical Economics, i.e., by passing designated courses offered in the department or, in the case of prior preparation, by passing a test given by the department.

Each student in the Ph.D. program is required to demonstrate proficiency in Economic Theory. The Economic Theory requirement includes Micro-theory, Macro-theory, and the History of Doctrine. Use of mathematics may be required in the examination in Economic Theory. The student satisfies the Economic Theory requirement by passing course examinations usually at the end of the first year of graduate study.

Upon completion of Economics Theory and the three special fields, the student is admitted to candidacy for the Ph.D. These fields may be selected from among the following: Monetary Economics, Public Finance, Industrial Organization, International Trade, Comparative Economic Systems, Econometrics, Advanced Theory, or one field selected from related subjects. If Econometrics or Advanced Theory is selected as a special field, the level of performance required is substantially higher than the general requirement in Econometrics and Economic Theory for all Ph.D. candidates. The choice of fields must be cleared in advance with the graduate student advisor. Not all graduate field courses are offered each year. Normally three field courses are offered annually.

Soon after having completed the field requirements, each student is expected to develop a written prospectus of his/her dissertation, and then to make a presentation before an informal conference with the dissertation committee demonstrating both the extent of knowledge of his/her dissertation field and the feasibility of the proposed topic.

Upon completion of the dissertation in a form acceptable to the committee, the candidate will make a copy of the dissertation available to the department, the staff, and graduate students in the department. After a period of approximately two weeks, to permit a wider reading of the dissertation within the department, the candidate will present the dissertation at a seminar open to all staff and graduate students in the department. Final approval of the dissertation will be granted by the committee after consideration of any suggestions of changes or challenges arising from the final seminar. Unless the dissertation is completed and defended within five calendar years from admission to candidacy, the certifying examinations must be repassed.

The dissertation must be a real contribution to knowledge, based upon independent research, convincingly presented, and acceptably written. Published articles may be accepted by the

department instead of a dissertation.

Some teaching experience at Clark or such other teaching as the department may regard as equivalent is prerequisite to the doctor's degree.

COURSES

ALL ECONOMICS COURSES LISTED ARE FULL COURSES.

10. ISSUES AND PERSPECTIVES.

By analysis of important current policy issues, the student is introduced to the vital contribution economics can make to systematic thought and understanding. Rather than emphasizing economic theory, the course begins with issues in the social sciences that are of obvious and important concern. From a study of issues the course proceeds to show how development and use of some very basic economic concepts can aid materially in the analysis. Open to freshmen. Multiple sections. Semesters 1, 2.

Mr. Van Tassel, Staff.

11. PRINCIPLES OF ECONOMICS.

An introduction to economic analysis. This course develops a basic set of economic concepts utilized in the "200"-level courses offered in the department. Basic elements of price and income theory are emphasized. Policy questions are treated both to reinforce concepts and to illustrate applicability of the analysis. Open to freshmen. Prerequisite: Economics 10. Semesters 1, 2.

108. INTERNATIONAL FINANCIAL DEVELOPMENTS.

This course traces the development, roles, importance, and problems in international finance. A multinational world requires an efficient international financial system. Yet, design of a system that permits orderly international trade and retains national identity and autonomy in vital areas of policy is a difficult and incomplete task.

Semester 2. Mr. Van Tassel.

113. MONETARY ECONOMICS: THEORY AND POLICY.

The theory of money, its role in the modern economy.

Determinants of the supply of money and analysis of the role of monetary policy in stabilization policy.

Semester 2. Mr. Weinrobe.

115. PUBLIC EXPENDITURES.

Issues of priorities in the composition and size of public expenditures. Evaluation of the federal budget (expenditures and revenues) according to criteria of efficiency, equity, and administrability. Examination of goals of employment, price stability, and growth and role of fiscal policy instruments in achieving them.

Semester 2.

Ms. Ott.

121. INTRODUCTION TO ACCOUNTING PRINCIPLES.

A first course in financial accounting designed to meet academic needs of: (a) students who will take only one course in accounting to obtain a good understanding of financial information such as that which appears in standard financial reports, (b) students who will be interested in work in managerial accounting as well as financial accounting, (c) students who will continue the study of accounting in intermediate and advanced courses. For certain programs this course may be considered the equivalent of Management 205 — Introduction to Accounting, which is desirable but not a prerequisite for this course. Semester 1.

Mr. Nicholson.

122. CORPORATE FINANCE AND INVESTMENT PRINCIPLES.

Introduction to Principles of Business Finance and Investment. The course begins with an analysis of the finance function in business and concludes with a study of investment principles

viewed from the standpoint of both the firm and the investing public. Topics covered in connection with the finance function include factors affecting need for funds and sources of funds. Study of investment principles focuses on appraisal of capital investment opportunities and the nature and functioning of capital markets such as the organized exchanges for stocks and bonds. Prerequisite: Economics 121 or consent of instructor. Semester 2.

Mr. Nicholson.

123.4 SPECIAL PROBLEMS: ENVIRONMENT AND ENERGY.

An analysis of major problems that have arisen as a result of environmental concerns and the energy shortage. Analysis will be placed on problems stemming from external diseconomies, supply demand disequalibria, and technological change.

Semester 2. Mr. Shakow.

124. ECONOMIC THOUGHT AND MODERN CIVILIZATION.

This new course is broadly interdisciplinary. It emphasizes the relationship between economics and related areas, such as philosophy, ethics, political science, sociology, mathematics, and statistics. Beginning from the perspective of economic thought, the course traces developments in economic analysis, showing how economic analysis has both affected and been affected by the contact with other disciplines. The course considers how modern economic thought has come to diverge in essential aspects from the ideas of social philosophers like Adam Smith and Karl Marx, and emphasizes what scientific economic analysis does and does not enable us to understand about modern social problems and issues.

Semester 1.

Mr. Nicholson.

126. PUBLIC POLICY TOWARD BUSINESS.

This course examines the various types of industrial organization, the degrees of monopoly in competition, and the development of public policies that affect business. Among issues traced will be the development of anti-monopoly regulation, consumer protection, and public utilities. Business performance and government regulation will be related to criteria from Economic Theory.

Semester 2.

Mr. Veendorp.

160. INTRODUCTION TO STATISTICAL ANALYSIS.

Basic concepts and techniques of statistical method in economic analysis: descriptive statistics; permutation and combination; an introduction to probability theory; sampling distribution; standardized normal distribution and other related distributions; simple and multiple regression; simple forecasting and statistical decision-making.

Semester 1. Mr. Puffer.

176. COMPARATIVE ECONOMIC SYSTEMS.

Many different political and economic systems exist in the world. Most systems are continually undergoing changes that gradually, but importantly, affect their performance. This course surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Mixed economies, market socialist and centrally planned economies are examined.

Semester 1. Mr. Hsu.

177. CHINESE ECONOMY.

This course is a comprehensive survey of the Chinese economy—its development, institutions, and policies. The major topics to be covered are: (1) The Economic Heritage; (2) Maoist Economic Development: Ideology and Strategy; (3) Rural and Agricultural Development; (4) Industrial Development; (5) Planning and Resource Allocation; (6) Human Resources: Population, Health Care, Education; (7) International Economic Relations.

Semester 2.

Mr. Hsu.

205.1. MICROECONOMIC THEORY.

The objective of the course is to describe and analyze how a market-oriented economy functions in answering five basic economic questions. These are: (a) What commodities to produce? (b) How much of each to produce? (c) What productive techniques to use and how to provide incentive? (d) How to distribute the output among the various members of society? (e) What provision to make for the future? Interspersed with the theory, the course contains frequent examples that demonstrate the use of microeconomics in solving problems faced by the decision-making unit in both the private and public sectors. Semester 1.

Mr. Veendorp.

205.2. MACROECONOMIC THEORY.

This course focuses mainly on the forces that affect the overall performance of the economy. It is a study of the determinants of economic activity (such as consumption, investment, government purchases, and exports); measures of economic performance (such as the level and rate of growth of national income and product, the level of employment and unemployment, the general price level, and the nation's balance of international payments). In addition, the course deals with specific, current, economic problems facing the U.S. economy, discusses public policies instituted to deal with them, their success or failure, and the repercussions of some of these policies on world economies.

Semester 2.

Ms. Ott.

207. INTERNATIONAL ECONOMICS.

Applies and develops concepts of economic theory to such questions as: determinant of international and regional specialization and trade, the theory of tariff intervention, the balance of payments, adjustment forces and disequilibria, and application of theory to important issues of international trade. Semester 1.

Mr. Van Tassel.

209. MARXIST ECONOMIC THEORY.

Introduction to Marxist Economic Theory. A comparison will be made between the development of Marxist and neoclassical economic analysis. Prerequisite: Economics 11 and consent of instructor.

Semester 1. Mr. Shakow.

224. HISTORY OF ECONOMIC DOCTRINE Not offered, 1976-77.

Economic thought profoundly influences modern society even when it is not well understood. Policy-makers are affected by economic thought in ways which are not always fortuitous. The great English economist, Lord Keynes, has written, "Madmen in authority who hear voices in the air are distilling their frenzy from some academic scribbler of a few years back." This course is a survey of developments in economic thought. It traces the sense in which economics has evolved as a science — a method of thinking clearly about complex and important social problems. Attention is also paid to the influence of economic thought on noneconomists — on policy-makers and general citizens.

Mr. Nicholson.

228. ECONOMIC DEVELOPMENT.

This course will examine the major theories of economic development, the major problems confronting the less developed countries, and the policies and strategies appropriate for economic development. The purposes are to show the relevance of economics in international development, to promote an understanding of the problems of the less developed countries, and to help provide analytical skills useful to students interested in a career in international development.

Semester 1.

Mr. Hsu.

265. BASIC ECONOMETRIC THEORY.

Introduction to econometric methods: statistical inferences and

testing hypotheses; model-building technique and theoretical justification of the model and the estimation method used. Various estimation methods will be presented and evaluated in terms of their performance and validity in economic empirical studies.

Semester 1.

Staff.

266. APPLIED STATISTICS AND ECONOMETRICS.

Not offered, 1976-77.

Integration of statistical concepts with the estimation and forecasting of economic variables: estimation of production function; cost analysis; quality analysis; linear programming; input-output method; estimation of aggregate supply and demand function; model for national economy. Prerequisite: Economics 160 or 265.

269. ECONOMIC HISTORY.

The objective of this course is to provide an introduction to the economic history of the developed capitalist countries.

Semester 2. Mr. Shakow.

271. INTRODUCTION TO MATHEMATICAL ECONOMICS.

An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: consent of the instructor.

Variable credit.

Semester 1.

Staff.

280. JUNIOR HONORS.

Designed to assist honors candidates in integration of the field. Semester 2. Mr. Nicholson.

281. SENIOR HONORS.

Variable credit.

Semesters 1, 2.

Staff.

282. HONORS.

Eligible students selected by the department may work off campus for a summer and a semester as junior professional economists in business, government or industry and receive academic credit.

Variable credit.

Semesters 1, 2.

Staff.

301.1. ECONOMIC THEORY.

Semester 1.

Mr. Veendorp.

301.2 MICROECONOMICS.

Semester 2.

Mr. Veendorp.

302.1 ECONOMIC THEORY.

Semester 1.

Ms. Ott.

302.2. MACROECONOMICS.

Semester 2.

Staff.

312. APPLIED MACROECONOMICS. Not offered, 1976-77.

313. SEMINAR IN MONETARY ECONOMICS.

Semesters 1, 2.

Mr. Weinrobe.

325. PUBLIC FINANCE SEMINAR.

Semesters 1, 2.

Ms. Ott.

326. INDUSTRIAL ORGANIZATION SEMINAR. Not offered, 1976-77.

327. INTERNATIONAL TRADE SEMINAR. Not offered, 1976-77.

328. ECONOMIC DEVELOPMENT.

Semesters 1, 2.

Mr. Hsu.

Education

DEPARTMENT FACULTY

Helen J. Kenney, Ed.D., Professor of Education; Department Chairman

William C. Kvaraceus, Ed.D., Professor of Education and Sociology

David Zern, Ph.D., Associate Professor of Education, Adjunct in Psychology

Thomas G. Carroll, Ph.D., Assistant Professor of Education Catherine C. Morocco, Ed.D., Assistant Professor of Education Marcia A. Savage, Ed.D., Assistant Professor of Education, Dean of the College

William E. Topkin, Ed.D., Assistant Professor of Education, Dean of Students

Elaine M. Holland, M.A., Lecturer in Education Spencer R. Potter, Ed.D., Lecturer in Education

Lawrence Bader, Ph.D., Assistant Professor of Education (Affiliate)

Eleanor R. Moosey, Ed.D., Assistant Professor of Education (Affiliate)

With the cooperation of Walter Schatzberg, Ph.D., of the Department of Foreign Languages and Literatures; David Tepper, Ph.D., of the Department of Mathematics; Richard B. Ford, Ph.D., of the Department of History; Duane S. Knos, Ph.D., of the Graduate School of Geography; Robert N. Beck, Ph.D., of the Department of Philosophy; Donald W. Krueger, M.F.A., of the Fine Arts Department; Virginia M. Carr, Ph.D., and James Macris, Ph.D., of the Department of English; Anthony W. Hodgkinson, Department of Visual and Performing Arts; Clinical Instructors in Education, Barbara Kohin, Ph.D., and Hessa Miller, M.A.

UNDERGRADUATE PROGRAMS

The department encourages all students who may be interested in preparing for careers in education to consult with some member of its staff early in their careers at the University. During the first two years, students should complete as many specific requirements for the degree of Bachelor of Arts as possible, and lay a broad foundation of scholarship in the subjects in which they wish to specialize. However, a limited set of education courses has been made available for freshmen and sophomores.

In conformity with its policy of emphasizing the importance of scholarly background, the department offers its courses as electives, and not as undergraduate majors.

However, to prepare those students contemplating careers in education, the department provides a number of internship experiences in the senior year. These internships offer coordinated course work and practicum experiences in elementary education with a special focus on early childhood and the primary grades, in selected secondary level subject matter areas, and in special education. A special sequence provides first level training in educational clinical work.

The internship programs serve as a transition to professional study at the graduate level and for entry into beginning teaching and special assistant positions. The elementary level teacher education program has been approved

by the Interstate Certification Compact, a legally based certification reciprocity agreement between Massachusetts and 31 other states and the District of Columbia. The special education sequence, taken as an extension of the regular teaching module, leads to approval in Massachusetts for teaching children with special needs. The secondary level teaching module leads to certification in Massachusetts.

The internship module is limited to seniors who have completed major requirements at a satisfactory level of scholarship. Most interns carry the teaching internship for a three to four course credit block during either the first or the second semester of their senior year. The decision to elect the internship module must be made before the end of the junior year, and must be approved by the Department of Education, and for secondary school teaching must be reviewed in addition by academic departments for competency in subject matter areas.

GRADUATE PROGRAMS

The department offers one program leading to the degree of Master of Arts in Education and another leading to the degree of Doctor of Education.

MASTER OF ARTS IN EDUCATION

Admission Requirements: In addition to the general admission requirements of the Graduate School, a personal interview is usually required by the Department of Education.

Programs Available: Three programs leading to the degree of Master of Arts in Education are available:

- Educational Analysis: This program provides a broad theoretical background in the four program areas around which graduate work in the department is organized. These areas are described in the section on the doctoral program. The program can be terminal or can serve as an entree to further graduate studies at the doctoral level.
- 2) Special Education/Early Childhood: This program provides an opportunity to develop a broadened base of skills and understandings within the areas of special education and/or early childhood. Experiences will include both formal course work and field placements.
- 3) Extended Training for Educational Practitioners: This program is individually designed to provide new perspectives and skills for persons who are already serving as teachers in elementary schools, secondary schools, and junior colleges, or functioning in administrative or support personnel roles.

Program Requirements:

- Courses: for further details on course requirements, consult the Department of Education.
- Internships: The department provides opportunities for extended internships with supervision.
- 3) Thesis or Additional Study in Lieu of Thesis: All candidates for the degree of Master of Arts in Education must choose one of the following plans: Prepare an acceptable thesis, or, elect, in lieu of thesis, a seminar in which intensive work will be required in preparing and presenting professional papers before fellow graduate students and members of the staff, or, elect, in lieu of thesis, two additional full courses.
- 4) Final oral examination: The passing of a final oral examination will be required of all candidates.

DOCTOR OF EDUCATION

The major thrust of the graduate program in the Department of Education at Clark University is to develop an educator with conceptual and practical skills in understanding and dealing with the processes and problems of schools, using a variety of approaches from the social sciences. This person may work in a school system, at a university, or with a private agency. Working as an Educational Analyst, he or she may be engaged in the design, administration, or evaluation of new or presently existing programs.

The psychological or sociological orientation of the Educational Analyst will help to differentiate the kinds of background knowledge and competence to be acquired. If, for example, curriculum changes in the area of language arts are of concern to the student, more work will be focused in basic psychology, educational psychology, and pedagogy. If community involvement in education is the orientation, more work in sociology, anthropology, educational sociology, and political sciences may be appropriate.

There are four major components to this doctoral program: (1) Social Science Foundations — depending upon the individual student's orientation, he/she will pursue an extended program relating psychological and sociological perspectives to issues in education. All students will be expected to acquire expertise in both foundation fields that will be examined through a variety of learning experiences, including integrative field studies; (2) Educational Process — students will acquire or otherwise demonstrate an appropriate level of competence in understanding and applying principles and criteria involved in curriculum decisions, development, and implementation; (3) Research and Evaluation - all students will be expected to demonstrate or otherwise acquire an appropriate level of competence in statistical procedures and research design; and (4) Consultation and Group Dynamics — all students will be expected to participate in specific experiences aimed at developing the interpersonal skills needed to work effectively with small groups and to develop effective supervisory and consulting techniques.

The formal course of study is annually evaluated through individual assessments including the required preliminary exams. The design and preparation of a dissertation is the final requirement of the program, offering the student the opportunity to study in depth a topic of specific concern to her or him.

Applicants for admission to the program will be expected to give evidence of high scholarly achievement and leadership promise in their field. Other evidence of potential such as results from Graduate Record Examinations, Miller Analogies, etc. may be required. Potential candidates are encouraged to sit in on graduate classes and otherwise familiarize themselves with the graduate program before completing formal application procedures. Personal interviews with staff of the department will then be required before applications are acted upon. In special cases, foreign students may be excused from the examination and interview requirement.

The department admits to graduate work only those students who plan to enroll in the Ed.D. program on a full-time basis. A residence requirement demands a minimum of full-time study (not less than ten full courses beyond the master's degree). The student is required to pass course work with distinction. The number of courses to be taken is determined through consultation with the student's individual advisor, but generally calls for an academic year of full-time study beyond the master's program. Language requirements in the department are optional and relate to the student's background and future professional goals.

COURSES

088. DIRECTED READINGS - UNDERGRADUATE.

Variable credit. Semesters 1, 2.

Staff.

105. DIMENSIONS OF CONTEMPORARY EDUCATION.

The aim of the course is to provide an introduction to the discipline of education. The experience will be intensive, committing the student's time and energies full-time for five days a week. Structurally, the learning experiences will be developed in the following manner: a particular theme will serve as the focus for each of the seven weeks during which the course takes place. Typical themes are: Education for Self or Society; Teachers and Teaching in Higher Education; To Grade or Not to Grade; Educating the Child Who is Different; School Reform; Radical Vision and the Roots of Tradition; The Young Child;

Comparative Study of Day Care. Double course, Modular Term.

Mr. Zern, Staff.

140. MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS.

Refer to course description under Mathematics E.1 (COPACE Bulletin).

Full course, Semester 2.

Staff.

150. SEMINAR IN MATHEMATICAL CURRICULUM METHODS AND MATERIALS.

Methods and materials are taught: (1) to acquaint the student with various methods of approach for theories on teaching math on the secondary school level, and (2) to give the student a prestudent-teaching experience. While conducting mini-courses in math in local high schools, the seminar discusses articles that are concerned with teaching math, the relationship of the theories to the practice, the problems that are encountered within the mini-courses, and methods of teaching math. Various field trips and guest speakers will be included.

Full course, Semester 1.

Mr. Tepper.

200. ENVIRONMENTAL EDUCATION WORKSHOP.

Refer to course description under Geography 200. Mr. Knos, Mr. Halverson.

201.1. EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF CHILD DEVELOPMENT.

Principles of child development with emphasis upon maturation and learning in the elementary school years. Recommended for those planning to take Internship Module.

Full course, Semesters 1, 2. To be announced.

201.2. EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF ADOLESCENT DEVELOPMENT.

Principles of adolescent development with special emphasis upon learning and personality development in the secondary school years. Recommended for those planning to take the Internship Module.

Full course, Semester 2.

To be announced.

201.3. EDUCATIONAL PSYCHOLOGY: CONTEMPORARY ISSUES IN EDUCATION.

An introduction to some contemporary issues in education and an overview of theoretical and research literature which may give insight into developmental and educational processes. The emphasis will be on "why" (within the framework of educational settings) rather than "how to." Recommended for those planning to take the internship module and who are working with the younger child.

Full course, Modular Term.

To be announced.

201.4. EDUCATIONAL PSYCHOLOGY: SPECIAL TOPICS IN SECONDARY EDUCATION.

Individual or small groups of students will study, discuss, and report on topics of central importance to education during the adolescent years.

Variable credit.

Semesters 1, 2, Modular Term.

Ms. Savage.

202. WORKSHOP IN SMALL GROUP AND INTERPERSONAL PROCESSES: ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.

Refer to course description under Sociology 205b.
Full course, Semester 1. Mr. Sampson.

203. INTERNSHIP: TEACHING GEOGRAPHY.

Refer to course description under Geography 203. Semester 2. Mr. Knos, Staff.

204. CURRICULUM DEVELOPMENT AND ANALYSIS IN GEOGRAPHY.

Refer to course description under Geography 204. Full course, Semester 1. Mr. Knos, Staff.

205.1. METHODS OF TEACHING AND RESEARCH IN EDUCATIONAL SYSTEMS.

Refer to course description under Geography 205.1. Full course, Semester 1. Mr. Knos, Staff.

205.2. EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Refer to course description under Geography 205.2. Full course, Semester 2. Mr. Knos, Staff.

206. AUTOBIOGRAPHY WORKSHOP.

Refer to course description under Geography 206. Half course, Semester 1. Mr. Knos, Staff.

211. FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING.

Dual focus on: (1) illustration and analysis of various cognitive and social interpersonal models of human behavior in the classroom setting, and (2) introduction to and development of skills involved in systematic observational methodologies, with the classroom as the natural setting in which the work is done. Students carry out a series of assigned observation tasks and execute their own individual projects.

Full course, Semester 2.

Mr. Zern.

216. EARLY DEVELOPMENTAL PROCESSES: THEORY AND PRACTICE. Not offered, 1976-77.

A selective consideration of some basic theoretical models of normal human development, analyzing their implications for understanding the determinants of behavior in infancy and early childhood, and their consequences in later development, particularly in terms of various developmental deviations. Students will observe normal and "special" children of various ages (infancy through adolescence) in various home and institutional settings. Classroom discussions and assignments will focus on relating the theory to the behaviors observed in the field.

Mr. Zern.

217. INTERNSHIP TEACHING.

Refer to Education 272.

Full course.

219. PSYCHO-EDUCATIONAL ASSESSMENT AND INDIVIDUALIZED INSTRUCTION.

(Formerly Education 319.) This course centers on: (1) psychoeducational diagnostic techniques, including both individual and standardized group tests that would be used to gather relevant data on children with special needs; and (2) the analysis and synthesis of psycho-diagnostic data to formulate an effective, individually appropriate educational plan.

Full course, Semester 2.

Ms. Holland, Staff.

222. ATTENTION AND ATTACHMENT: ISSUES IN INFANT CARE. Not offered, 1976-77,

The attention processes and the attachment behaviors of the infant will be emphasized in this course on the first years of life. Both theoretical and research literature will be analyzed. Direct observations of infants and relevant films will also be utilized. Full course.

Mr. Zern.

230. CREATIVE ARTS IN EDUCATION.

A seminar-workshop course, exploring and developing specific techniques for using music, visual experiences, and drama as tools to help children learn.

Full course, Semester 2. Academic Departments, Staff.

234. FIELD PROJECTS.

Provides individualized and extended experiences in a wide variety of agencies and institutions involving the education and comprehensive care of children and youth. Supervision is provided by the University and field agency personnel; combines related seminars and conferences as a basis for critical analysis of the experiences within the context of applied theory and practice.

Variable credit.

Semesters 1, 2, Modular Term.

Ms. Holland, Staff.

242. EMOTIONAL PROBLEMS AND SCHOOL LEARNING.

Considers the psychodynamics of emotional disturbance in children and adolescents, diagnostic and remediation techniques, and various educational approaches. Involves practicum experiences with disturbed children.

Full course, Semester 2.

To be announced.

252. THE CULTURAL CONTEXT OF EDUCATION.

Treating education as a process of communication, this course will review cross-cultural studies by anthropologists who seek to explain different patterns of child rearing and schooling in terms of the cultural contexts in which they occur. Readings will include studies of societies in Africa, Latin America, Native North America, and the United States.

Full course, Semester 1.

Mr. Carroll.

255. SOCIAL CRITICS AND SOCIAL ANALYSTS OF EDUCATION.

In the past ten years we have witnessed the development of four traditions of social criticism focused on education: "Litertarian" — (e.g., Holt, Goodman); "Political Reformers" — (e.g., Kozol, Kohl); "Third World Reformers" — (e.g., Illich, Friere); and "Social Analysts" — (e.g., Henry, Silberman). The course provides an intensive review of the literature as a context in which students can develop their own positions on issues raised by these authors.

Full course, Modular Term.

Mr. Carroll.

260. LINGUISTICS AND LANGUAGE LEARNING.

Refer to course description under Linguistics 260. Pre- or corequisite: Linguistics 114., which may be taken either prior to or concurrently with this course, and for which substitutes may be available if the instructor is consulted well in advance; permission required. Given in alternate years.

Full course, Modular Term.

Staff.

261. TESTS AND EVALUATION: THEORY AND TECHNIQUES OF MEASUREMENT AND APPRAISAL.

(Formerly Education 314). The methods and problems involved in the evaluation of abilities, interests, and achievement of children and youth, both by standardized instruments and by special purpose measures.

Full course, Semester 1.

Mr. Kvaraceus.

262. TESTS AND EVALUATION: PRACTICA.

(Formerly Education 315). Provides supervised testing experiences in schools or child welfare agencies. Prerequisite: Education 261.

Full course, Semesters 1, 2, Modular Term. Mr. Kvaraceus, Staff.

263. INDIVIDUAL ASSESSMENT OF MENTAL ABILITIES.

(Formerly Education 317). Theory and intensive experience in administering and interpreting individual tests of intelligence with major emphasis on Stanford-Binet Revision and Wechsler Intelligence Scales. Emphasizes mechanics of administration and interpretation for use of test results in educational settings. Pre-requisite or co-requisite: Education 261. Full course, Semester 1.

265. TEACHING ENGLISH AS A SECOND LANGUAGE.

Refer to course description under English 295.
Full course, Semester 2. Mr. Macris.

272. INTERNSHIP TEACHING.

(Formerly Education 217.) An intensive period of observation and teaching in a secondary level or special subject field in which the student plans to teach. Individual supervision is given by the academic department and by a teacher in a cooperating school. Admission on consent of both the academic and education departments.

One and one-half course, Semesters 1, 2.

Academic Departments, Staff, Cooperating Teachers.

272.(1-7). SEMINAR IN STUDENT TEACHING.

Conference course running concurrently with student teaching at the secondary level and in special subject fields. The seminar aims to develop the students' problem-solving ability as it relates to the specific issues and concerns of the classroom.

272.1. Seminar in Teaching English.

272.2. Seminar in Teaching Foreign Language.

272.3. Seminar in Teaching Social Studies.

272.4. Seminar in Teaching Science.

272.5. Seminar in Teaching Art.

272.6. Seminar in Teaching Theatre.

272.7. Seminar in Media Studies. Half course, Semesters 1, 2.

Academic Departments.

273. SEMINAR IN CURRICULUM AND METHODS IN MATHEMATICS TEACHING.

Full course, Semester 2.

Mr. Tepper.

278. EDUCATION IN CHANGING SOCIETIES.

Treating education as a process of communication that may function to maintain or alter cultural patterns of behavior, this course will use cross-cultural studies to compare contexts in which education has promoted or inhibited natural social change. Implications drawn from these studies will then be used to examine attempts to employ education as a force to accelerate or control programs of planned social change. Readings will include studies of societies in Africa, Latin America, the United States, and Asia.

Full course, Semester 2.

Mr. Carroll.

279. SOCIAL PSYCHOLOGICAL THEORY: SMALL GROUP AND INTERPERSONAL PROCESSES.

Refer to course description under Sociology 291b.
Full course, Semester 1. Mr. Sampson.

280. JUVENILE DELINQUENCY AND THE SCHOOL.

Considers the role of the school as a central agency in the prevention and control of norm-violating behavior.

Full course, Modular Term.

Mr. Kvaraceus.

282. INSTRUCTION AND CURRICULUM DEVELOPMENT AT THE SECONDARY LEVEL.

An introduction to the fundamentals of the instructional process and curriculum planning in secondary education.

Half course, Semester 1. To be announced.

282.(2-7). INSTRUCTION AND CURRICULUM IN SUBJECT FIELDS.

Principles of curriculum development and teaching in specific and special subject fields.

282.2. Instruction and Curriculum Development in Foreign Languages.
282.3. Instruction and Curriculum Development in Social

Studies.

282.4. Instruction and Curriculum Development in Science.

282.5. Instruction and Curriculum Development in Art. 282.6. Instruction and Curriculum Development in Theatre.

282.7. Instruction and Curriculum Development in Theath 282.7. Instruction and Curriculum Development in Media Studies.

Half course, Semester 1.

Academic Departments.

287. INTERNSHIP MODULE IN ELEMENTARY EDUCATION.

This integrated internship provides an intensive work-study experience in elementary schools and other educational agencies in the Worcester area. It involves theoretical course work; a full-time supervised experience in schools or in some other educational, welfare or recreational agency; and related workshops, seminars, and conferences. The elementary module provides credit in the following areas: student teaching (two full courses including the professional teaching seminar) with three half-courses distributed to cover curriculum, methods, and materials of instruction in the basic elementary school program. Limited to seniors who will have completed major requirements and whose grade point average reflects high level of scholarship. Students contemplating internships must make application during their junior year.

Three-and-one-half course, Semesters 1, 2,

Ms. Kenney, Staff, Cooperating Teachers.

288. SOCIOLINGUISTICS.

Cross-disciplinary perspectives on language behavior, communicative competence, attitudes, and socio-cultural variations as they affect individuals, groups, and societies. A modest study will be designed and carried out by the students. Full course, Semester 2.

Ms. Morocco.

289.(1-3). PRACTICA IN SPECIAL EDUCATION.

The department offers a number of specialized practica that provide an in-depth experience teaching children with special needs. A student may select one practicum in the second half of the year following completion of the basic internship teaching module. Each practicum is designed to focus on a specific degree of learning need — mild, moderate, or severe — and on a particular program setting — regular education with modifications, substantially separate programs, or a day school in a facility other than a public school.

289.1. Practicum in Teaching School-Age Children with Mild Special Needs.

289.2. Practicum in Teaching School-Age Children with Moderate Special Needs.

289.3. Practicum in Teaching School-Age Children with Severe Special Needs.

Prerequisite: Education 287.

Full course, Semester 2. Staff, Cooperating Teachers.

290. PHILOSOPHY OF EDUCATION.

The aims, processes, and materials of education with special reference to the influence of philosophical ideas on educational problems.

Full course, Semester 1.

Mr. Beck.

291. DEVELOPMENTAL DEVIATIONS: LEARNING PROBLEMS AND EDUCATIONAL INTERVENTIONS.

Special needs children whose developmental problems involve mental retardation, emotional disturbance, neurological impairment, physical handicaps, and social maladjustment will be studied. Educational programs to meet these needs in regular classrooms and special centers will be reviewed. Observations will be arranged. Prerequisite: permission of the instructor. Limited to juniors and selected sophomores.

Full course, Modular Term.

Ms. Kenney.

292. PRACTICUM - FIELD PLACEMENTS IN SPECIAL EDUCATIONAL AND CLINICAL SETTINGS.

Must be taken concurrently with Education 291. Course meets 15-20 hours a week including a weekly two-hour practicum seminar. Prerequisite: permission of the instructor. Limited to juniors and selected sophomores.

Full course, Modular Term. Ms. Kenney.

293. WORKSHOP IN SECONDARY ENGLISH CURRICULUM.

Refer to description under English 293. Full course, Semester 1. English Department.

294. MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH.

Refer to course description under English 294.
Full course, Semester 2. English Department.

295. METHODS OF ART EDUCATION.

A practical, experiential introduction to art and design education materials, methods, and skills as applied to realistic classroom situations.

Half course, Semesters 1, 2.

Mr. Krueger, Staff.

296. PSYCHO-EDUCATIONAL CASE STUDIES.

Considers psycho-educational assessment of the individual child with educational planning.

Full course, Semester 2.

Mr. Kvaraceus, Staff.

297. PATTERNS OF CHILD-REARING: A CROSS-CULTURAL ANALYSIS. Not offered, 1976-77.

Analysis of various sub-cultural and cross-cultural patterns of child-rearing, dealing with both similarities and differences within the human species. The materials for this consideration will be both theoretical (particular emphasis on Freud and F. Kluckhohn) and descriptive case studies such as Walden II, day care and higher education and the kibbutz.

Full course.

Mr. Zern.

303. HUMAN LEARNING AND INSTRUCTION.

Analysis of basic psychological models as they relate to the issues involved in human learning and instruction. Application of these perspectives to the particular situation of the classroom will be considered concurrently with a more abstract consideration of the perspectives themselves.

Full course, Semesters 1, 2. (Course continues Semester 2 as another full course.)

Mr. Zern.

304. CURRICULUM AND INSTRUCTIONAL SYSTEMS.

Considers the theoretical bases of curriculum and examines various instructional methodologies in detail.

Full course, Semester 2.

Ms. Kenney.

309. THE WORKING ALLIANCE: THEORY/PRACTICE.

This course provides an overview of important concepts related to the working alliance. It is designed to blend theory, experience, and application in the area of leader-member interaction and cooperative decision making. Interpersonal skills to be emphasized include: empathetic listening, accurate observations, unambiguous communication, and useful feedback. Readings are drawn from the areas of group dynamics, leadership behavior, participatory decision making, the helping relationship, and supervision.

Full course. Semester 1.

Mr. Bader.

311. PRINCIPLES AND PRACTICES OF GUIDANCE.

Not offered, 1976-77.

Within a rationale for pupil services, consideration will be given to the day-to-day functioning of the so-called guidance counselor — his work within the structure of the system as well

as his coordination of services within the school with those of community service agencies.

Full course.

Mr. Potter.

312.1. INTRODUCTION TO THEORIES OF COUNSELING.

Emphasis will be upon the theory and methodology of counseling and upon the management of typical counseling problems. The diagnosis and referral of behavior disorders and related personality maladjustments will be considered. Case material will be presented and analyzed. (Education 311 suggested as a pre-requisite.)

Full course, Semester 1.

Mr. Topkin.

312.2. COUNSELING PRACTICUM.

Field placement in Worcester area schools and weekly seminars. Relevant readings will be required.

Full course, Semester 2.

Mr. Topkin.

318. PSYCHO-EDUCATIONAL ASSESSMENT OF THE MULTI-HANDICAPPED. Not offered, 1976-77.

Considers specialized tests and techniques in the assessment of children who have major learning handicaps. Gives special emphasis to the utilization of consultants in the evaluation process.

Full course.

321. SEMINAR IN THE ANTHROPOLOGY OF EDUCATION.

This course provides a review of social and cultural theories that provide an understanding of education as a process of cultural communication. Theory will be applied to an examination of education at three contextual levels: classroom, school, and community. Emphasis will be placed on studies with a microanalytic research focus.

Full course, Semester 1.

Mr. Carroll.

327. SCHOOL CONSULTATION: ISSUES/PROBLEMS.

This course addresses itself to the area of organizational consultation with a special emphasis on school systems. Its purpose is to provide an overview of important conceptual issues faced by consultants in their everyday work. The format will blend theoretical concepts, case study analysis, and presentations. The course will become a laboratory for effective consultation in which members will consult with other members and with individuals from the Worcester community invited to present problems for consultation.

Full course, Semester 2.

Mr. Bader.

331.1. RESEARCH TOOLS AND TESTS. Not offered, 1976-77.

An introduction to the development of questionnaires and interview techniques coupled with an examination of test validation procedures.

Full course.

331.2. STATISTICS IN EDUCATIONAL RESEARCH.

An introduction to the descriptive, parametric, and nonparametric statistical tests used in educational research. Full course, Semester 2. Mr. Carroll.

336. LANGUAGE AND COGNITIVE DEVELOPMENT.

Will investigate the language acquisition process, the relationships between language and cognitive development (emphasizing the two- to seven-year-old period), and the effects of dialect and cultural variations on communication processes and learning in educational settings. Theoretical issues and research literature will be analyzed and a modest study will be designed and carried out by the students.

Full course, Semester 1.

Ms. Morocco.

338. BILINGUAL EDUCATION.

Theoretical and practical issues in designing, implementing, and evaluating programs for children who are receiving bilingual education.

Full course, Semester 2.

To be announced.

341. SOCIAL-PSYCHOLOGICAL ISSUES IN EDUCATION.

A consideration of selected issues in American education from the point of view of psychological and sociological perspectives. Planned particularly for entering doctoral candidates — others with permission.

Full course, Semester 1.

Mr. Kvaraceus, Ms. Kenney.

343. ANALYSIS OF THE RESEARCH PROCESS.

A critical examination of the nature of the research enterprise conducted primarily through an analysis of the strengths and weaknesses of existing research in the social sciences focused on educational issues. Planned for doctoral students — others with permission.

Full course, Semester 1.

Mr. Zern.

344. RESEARCH DESIGN.

Critical analysis of alternative ways to design research with some time focused on problems generated by students.

Full course, Semester 2.

Ms. Morocco.

346. SEMINAR IN TEACHING-LEARNING INTERACTION.

A variety of approaches to the consideration of teaching-learning interactions primarily, although not exclusively, classroom oriented. Course will involve: (1) a theoretical level of analysis utilizing basic psychological models to explain the teaching-learning interaction; and/or (2) a degree of independent research based on instruments for natural observation already developed. Relation emphasis in the two areas will depend on the priorities of students and faculty member. Some prior experiences and theoretical background will be assumed.

Year course,

1/2 course, Semester 1.

1/2 course, Semester 2.

Mr. Zern.

347. THE EDUCATIONAL PROCESS: HISTORICAL AND PHILOSOPHICAL PERSPECTIVES.

Consideration of a variety of seminal ideas that have shaped the field of education. Critical topics will be dealt with in readings and with the help of relevant guest speakers from inside and outside of the department and University.

Year course,

1/2 course, Semester 1.

1/2 course, Semester 2.

Mr. Zern.

348. METHODS OF SOCIOLOGY AND ANTHROPOLOGY APPLIED TO THE CLASSROOM.

Applies central ideas and methods of inquiry in sociology and anthropology to the study of education as a process of cultural communication at three contextual levels: classroom, school, and community. Techniques of direct observation, interviewing, sociograms, and unobtrusive measures will be used to examine an educational question in these contexts.

Full course, Semester 2.

Mr. Carroll.

GRADUATE READINGS AND THESIS COURSES

300. GRADUATE INTERNSHIP IN EDUCATION.

(Formerly Education 379.)
Variable credit.
Semesters 1, 2, Modular Term.

Staff.

301. DIRECTED READINGS.

(Formerly Education 37.) Variable credit.

Semesters 1, 2, Modular Term.

Staff.

302. RESEARCH IN EDUCATION.

Variable credit. Semester 1.

Staff.

371. THESIS.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

380. DEPARTMENTAL SEMINAR ON CONTEMPORARY EDUCATIONAL PROBLEMS AND ISSUES.

For master's degree candidates who are not writing a thesis. Requires a major paper.

Full course, Semester 2.

Mr. Kvaraceus, Staff.

English

DEPARTMENT FACULTY

William H. Carter, Jr., Ph.D., Professor of English, Department Chairman

James F. Beard, Jr., Ph.D., Professor of English
Charles S. Blinderman, Ph.D., Professor of English
*Serena S. Hilsinger, Ph.D., Professor of English
James Macris, Ph.D., Professor of English and Linguistics
Stanley Sultan, Ph.D., Professor of English
J.E. Parsons, Ph.D., Associate Professor of English
David H. Abraham, Ph.D., Assistant Professor of English
James P. Elliott, Ph.D., Assistant Professor of English
Virginia Mason Carr, Ph.D., Assistant Professor of English
Arthur F. Kinney, Ph.D., Professor of English (Affiliate)
Kenneth S. Davis, M.S., Professor of English (Affiliate)
John H. Dorenkamp, Jr., Ph.D., Professor of English at the
College of the Holy Cross (Exchange Professor for Second
Semester 1976-77)

*On leave, Second Semester.

PROFESSORS EMERITI

Karl O.E. Anderson, Ph.D., Professor of English, Emeritus Jessie C. Cunningham, Ph.D., Associate Professor of English, Emeritus

UNDERGRADUATE PROGRAM

The English Department believes that it should provide courses taught by specialists in the major periods of English and American Literature and insist that the English major have, upon graduation, some background in most of these periods. We feel that this background ought to include not only experience of the literature of these periods but also some understanding of the historical and philosophical contexts in which the works were written. Ideally, an English major should possess, upon graduation, a sense of cultural history, a developed sensibility, and a knowledge of the major authors, works, and periods of English and American literature; also he should be capable of critical thinking and effective expression of that thinking. In sum, he should have achieved a rigorous humanistic education.

To this end, we provide certain elective and required courses for the first two years of the major — an elective Introduction to

Literature (English 10), involving intensive training in "close reading"; an elective tutorial in Expository Writing (English 18), providing intensive work in composition; a required survey of major figures, either British (English 100) or American (English 101); a required course focusing on the historical development of English Poetry (English 13); and a required course focusing on the historical development of either English fiction (English 154) or English drama (English 155). During the sophomore year we ask each major to select — in consultation with his/her adviser and other appropriate members of the staff — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study. To insure this careful integration, the department requires each major to consult with his/her adviser and obtain approval of her/his program at every registration period.

For majors in their junior and senior years we provide a series of courses and seminars devoted to intensive study of specific periods and authors, courses that demand mature and critical thinking and require independent work which reflects the student's ability to deal with complex ideas and express himself/herself effectively. During these last two years each major is also required to take one of two seminars specifically designed to achieve an integrating and synthesizing function — either English 297., Varieties of Literary Criticism, or English 298., The Mythopoetic Mode.

The above statement of policy is based, in part, upon our identification of our majors:

- Students whose goal is graduate work in English or American literature.
- 2) Students who are preparing for primary or secondary school teaching.
- Students with a love of literature who wish a general education.

As to the first group — our program provides the background necessary for admission to and success in any graduate program, here or abroad, in English or American literature. As to the second group — our program demands and emphasizes knowledge of subject matter and assumes that it is certainly as important as development of the skills, methods, and techniques of teaching. Moreover, in cooperation with the Department of Education, we have worked out a meaningful concentration in Literature and English Education which leads to state certification. As to the third group — because literature does not exist in a vacuum, cannot be experienced or taught in a vacuum, our program provides a history of mind, as much as it does the history of that specific manifestation of mind — literature.



I. Basic Program for all English Majors

A. Recommended—but not required: English 10. Introduction to Literature. English 18. Expository Writing.

B. Required Survey Course—one of the following: English 100a and b. Major British Writers. English 101a and b. Major American Writers.

C. Two Required Genre Courses:

English 13. English Poetry (one full course, available both Semester 1 and Semester 2; recommended during the freshman year.)

2. Either English 154a and b. English Fiction or English 155a and b. English Drama.

These full year genre courses, like the surveys above, are developed chronologically and help to consolidate the student's sense of period and of historical development.

D. Required 200-level Seminar—one of the following: English 297. Varieties of Literary Criticism English 298. The Mythopoetic Mode

Both of these offerings are designed to provide one kind of "capstone experience" and to develop key theoretical,

analytical, and methodological skills.

E. Other 200-level Courses or Seminars (supplemented, where necessary or feasible, by appropriate Consortium offerings at Assumption College or the College of the Holy Cross):

- To help majors develop greater historical perspective and awareness of the range and variety of English and American literature, all majors must take at least:

 (a) two full 200-level courses or seminars dealing primarily with English literature written before 1700, e.g., 203.
 Medieval Literature; 206. Chaucer; 212a and b.
 Shakespeare; 215. Special Studies in Renaissance Drama; 216. Literature of the Renaissance; 220. Seventeenth Century; 222. Milton; 224. Radical Mode of Restoration
 - (b) two full 200-level courses dealing with English or American literature written between 1700 and 1900, e.g., English 226. The Augustans and the Age of Johnson; 236. Romantic Period; 238. Blake; 239. American Literary Renaissance; 240. Poe, Hawthorne and Melville; 242a and b. Victorian Literature; 244. Romantic and Victorian Gothic; 245. Darwinism; 247. Dickens; 249. Twain, Howells and James.
- 2. In working out their various areas of concentration, majors will wish to elect the most relevant courses and seminars from the following: English 253. Modern American Drama; 254. Realism and Naturalism in American Fiction; 257. The Irish Literary Movement; 258. Lawrence and Joyce; 259. Modernist Poetry; 261. Yeats; 264. T.S. Eliot; 266. Virginia Woolf; 267. Special Studies in American Literature: Hemingway and Faulkner; 268. Eugene O'Neill; 273. F. Scott Fitzgerald and the Twenties; 291. Satire in Literature and the Visual Arts.

II. Individual Areas of Concentration

In consultation with his/her adviser and other appropriate members of the staff, each major shall select — normally during the sophomore year — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study.

III. Honors Program

Qualified majors are encouraged to apply in the spring of their sophomore year to participate in the Honors Program in English. Further information is available from the department.

IV. Consortium Offerings

The range of English offerings open to Clark students has been extended by the establishment of a cooperative arrangement with the English departments at Assumption College and the College of the Holy Cross. With the permission of the department, majors and graduate students may take a few carefully selected courses in literature at these institutions.

GRADUATE PROGRAM

The University offers a program leading to the Master of Arts degree in English. A limited number of scholarships providing tuition remission are available for superior students. The department also offers several teaching assistantships, involving half-time teaching and half-time study, with stipends ranging up to \$3,200 plus the remission of tuition.

For the Master of Arts, the student must satisfactorily complete at least eight full courses of work, including English 300[Introduction to Graduate Study] and either English 280. [History of the English Language (II)] or English 284. [Modern American English], and at least one additional seminar. During the second semester of his/her first year in residence, the student must satisfactorily complete English 349. [Thesis Workshop]; to obtain her/his degree, the student must also complete an acceptable master's thesis, English 350 (one full course); he/she must pass a written foreign language examination (in Greek, Latin, French, German, Italian, Russian, Spanish, or other foreign language approved by the department); and she/he must pass a final oral examination.

COURSES

10. INTRODUCTION TO LITERATURE.

This course provides the student with an opportunity for intensive reading and writing about basic elements of poetry, fiction, and drama — such as use of diction, imagery, point of view, tone, and structure. Small sections and limited reading lists will help establish an atmosphere conducive to significant class discussion; emphasis will also be placed on the student's writing effectively about his/her experience with literature. Strongly recommended for the English major. No student may take more than one section of English 10.
Full course, Semesters 1, 2.

13. ENGLISH POETRY.

This course, required for the English major, focuses upon the development of the most important forms, themes, and movements of English poetry. It emphasizes intensive study and discussion of individual poems. A series of essays on assigned topics is required.

Full course, Semester 1. Full course, Semester 2.

Ms. Hilsinger. Mr. Carter.

14. LITERATURE OF FILM: RELATIONSHIPS BETWEEN LITERATURE AND FILM (Film Studies 14.).

A course in which relationships between popular literary works and significant films are explored in detail and in depth. Also included in the reading will be books of film and literary theory, aesthetics, history, etc. Prerequisite: Film Studies 10.
Full course, Semester 2. Mr. Hodgkinson, Mr. Elliott.

16. CREATIVE WRITING.

A course designed to cultivate and guide student work, particularly in the short story, the lyric poem, and the informal essay. Class meetings deal largely with important aspects of the art of fiction; published literary works and student manuscripts are discussed. Not open to freshmen. Prerequisite: one semester of study in literature taught in any department. Full course, Semester 2.

17. CREATIVE WRITING.

Open to students who have taken English 16 and to other students interested in writing verse. Prerequisite: the same as for English 16. Not open to freshmen.

Full course, Semester 1.

To be announced.

18. EXPOSITORY WRITING.

This course is designed to improve the student's skill in expository writing. Heavy emphasis is placed on regular

conferences with individual students. Although the course is offered by the English Department, topics for papers are not restricted to literature. Expository writing implies a method of expressing one's views on any chosen subject; consequently, topics are chosen in consultation with the instructor. Full course, Semesters 1, 2,

19. INTERMEDIATE COMPOSITION. Not offered, 1976-77.

This course is designed to help those who have already acquired competence in expository writing to improve their style and effectiveness through practical experience. Special emphasis will be placed on stylistics, techniques of persuasion, and methods of organization through the study of works of established essayists and the close analysis of student papers. Enrollment limited to 15 students. Offered at the discretion of the department. Prerequisite: English 18 and consent of the instructor.

Full course.

Mr. Blinderman.

25. WRITING FOR MAGAZINES.

The course will analyze the writing styles of different magazines (popular, trade, technical, etc.) and will help students develop appropriate styles for submission of stories and expository articles to these magazines. Offered at the discretion of the department. Prerequisite: permission of the instructor. Enrollment limited to 15.

Full course, Semester 1.

Mr. Davis.

88. DIRECTED READINGS.*

Variable credit.

Staff.

89. DIRECTED WRITING.

Prerequisite: consent of the instructor and of the chairman of

the department. Variable credit.

Staff.

90. SPECIAL PROJECTS.*

Variable credit.

Staff.

*Note: When asking an instructor to sponsor DIRECTED READINGS (88) or a SPECIAL PROJECT (90), the student: (1) must be able to satisfy the instructor at the time of registration that he is competent to deal with the agreed-upon materials primarily as works of literature, and (2) must present a wellthought-out proposal. The student must have taken the initiative in conceptualizing the principles on which he/she will select Readings or carry out a Special Project, and she/he must have demonstrated competence in determining specific selections and procedures.

100. MAJOR BRITISH WRITERS.

This course is designed to give the beginning student a sense of the historical development of English literature; consequently, each author will be studied both as a representative of his own time and as part of a continuing tradition.

First semester: Beowulf; selections from Chaucer (in translation): Sir Gawain and the Green Knight; Spenser's Faerie Queene. Book III: selections from Shakespeare, Donne, and Milton.

Second semester: Gay's Beggar's Opera; Pope's Rape of the Lock; selections from Blake and Wordsworth; Dickens' Hard Times: selections from Browning and Hopkins; Shaw's Major Barbara.

Full course.

Semester 1. Semester 2.

Ms. Carr. Mr. Sultan.

101. MAJOR AMERICAN WRITERS.

(Formerly English 111) Through study of representative masterworks, the course traces the main currents of American literature from Puritan times to the present. Authors to be read during the first semester include Sewall, Edwards, Franklin, Cooper, Poe, Hawthorne, Thoreau, Emerson, and Melville: during the second semester, Whitman, Twain, Howells, Dickinson, Adams, Crane, James, Frost, Eliot, Faulkner, and Hemingway.

Full course.

Semester 1. Mr. Elliott. Semester 2. Mr. Beard.

116. MODERN FICTION BY WOMEN WRITERS.

The selection of authors and works is based on three major concerns: that the literature read represent a chronological span, that it preserve a certain thematic coherence, and that it allow ample opportunity for discussion of aesthetic matters. The course is concerned with works written between 1892 and 1973 which provide portraits of women in all stages and conditions of life rendered in a broad spectrum of fictional techniques. Authors studied include Kate Chopin, Gertrude Stein, Diuna Barnes, Katherine Ann Porter, and Doris Lessing. Offered at the discretion of the department.

Full course, Semester 1. Ms. Hilsinger.

120. LITERATURE AND LIBERATION, Not offered, 1976-77.

This course will study the way literature reflects and determines the position of women in societies from ancient Greece to modern suburbia. Offered at the discretion of the department. Full course. Mr. Blinderman.

125. THE SHORT STORY.

This course involves the intensive reading of a wide range of stories which exemplify a variety of fictional methods, affording the student some knowledge of the history of this literary type. The primary aim is to help the student develop an appreciation of the broadly human values implicit in the short story. Offered at the discretion of the department. Mr. Carter.

Full course, Semester 1.

129. MODERN DRAMA.

Full course, Semesters 1, 2.

A survey, with special emphasis on several major figures, of drama from Ibsen to the present. The first semester traces the reaction of naturalism against the "well-made play," the emergence of modern realistic drama, and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major post-war movements and some of the radical dramatic forms which they have produced.

130. INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

Introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. (See also Full course, Semester 1. Mr. Ford, Mr. Formisano, Mr. Parsons.

132. MAJOR THEMES IN AMERICAN CULTURE.

An in-depth study of selected major themes and institutions in American Culture. Critical examination of the "American-ness" of such themes as Democracy, Individualism, Romanticism, Pragmatism, and Imperialism will focus on seminal, wideranging historical texts (e.g., Tocqueville's Democracy in America; Adams' Education). Literary works which express and evaluate these themes will complement this focus. Historical and literary readings will vary from year to year. (See also History

Full course, Semester 2.

Mr. Campbell, Mr. Parsons.

Mr. Abraham.

143. MODERN BRITISH FICTION. Not offered, 1976-77.

The course deals primarily with the work of five twentiethcentury British writers of fiction: Joyce, Lawrence, Woolf, Forster, and Lessing.

Full course.

Ms. Hilsinger.

144. MODERN AMERICAN FICTION.

A critical introduction to the best American fiction from about 1900 to 1960, with emphasis on its aesthetic values, sociological insights, and philosophical implications. Authors read include Dreiser, James, Anderson, Fitzgerald, Hemingway, Capote, Faulkner, Ellison, and Mailer.

Full course, Semester 1.

Mr. Beard.

145. CONTEMPORARY FICTION.

The purpose of this course is to acquaint the student with recent developments in fiction. The emphasis will be on English and American fiction, although some South American and Continental writers may also be included. We will look at both traditional and experimental forms. Works of such authors as John Barth, Vladimir Nabokov, Heinrich Boll, Anthony Burgess, Muriel Spark, Donald Barthelme, Walker Percy, etc., will be examined. Final choice of authors will depend upon availability of texts. Offered at the discretion of the department. Full course, Semester 2.

146. LITERATURE OF THE SIXTIES.

The course will be a survey of contemporary British and American fiction and poetry. Writers to be considered may include Burgess, Hawkes, Golding, Barth, Mailer, Malamud, Bellow, Heller, Vonnegut, and representative modern British and American poets.

Full course, Semester 2.

Mr. Elliott.

154. ENGLISH FICTION.

(Previously listed as English 14.) An exploration of narrative and fictive modes from their earliest appearances in English to the twentieth century. In the first semester, texts will include Moll Flanders, Clarissa, Tom Jones, Tristram Shandy, Frankenstein, and others. Writers considered in the second term will be Thackeray, Dickens, James, Carroll, Hardy, Conrad, Lawrence, Woolf, and others. Close attention will be paid both to texts and to their cultural contexts. Literary and intellectual history will figure largely in a survey which views the novel not only as reflector, but also as creator of its milieu. During the year some basic critical stances (e.g., Biographical, Marxist, Freudian, Decadent) will be examined, and their vocabularies will be scrutinized — skeptically.
Full course, Semesters 1, 2. Mr. Parsons.

155. ENGLISH DRAMA.

(Previously listed as English 15.) A course in the major periods of English drama before the twentieth century. The first semester covers medieval religious drama, and the drama of Tudor and Early Jacobean England. The second semester covers the drama from the later Jacobean period up to the turn of the twentieth century.

Full course, Semesters 1, 2.

Mr. Abraham.

161. ADVANCED CREATIVE WRITING. Not offered, 1976-77.

A course for serious undergraduate literary artists. Admission by consent of the instructor, who will require a sample of the student's work. Enrollment limited to ten. Offered at the discretion of the department.

Half course, Modular Term.

Mr. Sultan.

203. MEDIEVAL LITERATURE.

A study of the literature of Western Europe before 1500. The works read include epics such as Beowulf, The Song of Roland,

The Nibelungenlied, and the Njal's Saga; historical writings and folk tales important in the development of the Arthur story; romances such as Perceval, Tristan and Isolde, and Gawain and the Green Knight; Dante's Divine Comedy; Interno; selections from Chaucer's Canterbury Tales.

Full course, Modular Term.

Mr. Anderson.

206. SEMINAR: CHAUCER.

An introduction to Middle English grammar, pronunciation and scansion, and a study of *Troilus and Criseide* and the best of the *Canterbury Tales*, followed by a more rapid reading of at least one of Chaucer's earlier works, such as *The Book of the Duchess*, *The House of Fame, The Parliament of Fowls*, and *The Legend of Good Women*. Prerequisite: consent of the instructor. Full course, Semester 2.

212. SHAKESPEARE.

Approximately twenty plays are read through the year as a basis for a study of Shakespeare's development as a dramatist. Semester 1 will cover Shakespeare's early plays, the histories and the mature comedies, ending with Hamlet. Semester 2 will emphasize the later tragedies as well as the romances. Full course, Semesters 1, 2. Ms. Carr.

215. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA.

A seminar devoted to the intensive study of a small group of dramatists or a special dramatic problem of the Renaissance. Topic for 1976-77: Marlowe and Jacobean Tragedy. Prerequisite: consent of the instructor. Offered at the discretion of the department.

Full course, Semester 2.

Mr. Dorenkamp.

216. THE RENAISSANCE IN ENGLAND. Not offered, 1976-77.

From Thomas More's book on nowhere-at-all (called *Utopia*) to Shakespeare's witches who argue, in *Macbeth*, that "Fair is foul and foul is fair," to the metaphysical poetry of John Donne, this course will examine equivocation as the mode of thought and response in the sixteenth century, a century torn by the Protestant discoveries of Copernicus; the economic rise of capitalism; the wars with Spain (and the Spanish Armada); and the quiet political revolution — from monarchy to government by Parliament. Offered at the discretion of the department. Full course.

Mr. Kinney.

220. SEMINAR: SEVENTEENTH CENTURY. Not offered, 1976-77.

A study of selected Metaphysical, Cavalier, and early Neo-Classical poets (including John Donne, George Herbert, Henry Vaughan, Richard Crashaw, Ben Jonson, Robert Herrick, Andrew Marvell, John Wilmot, Earl of Rochester, and John Dryden), and of major writers of seventeenth-century prose (including Sir Francis Bacon, Thomas Hobbes, Izaak Walton, Robert Burton, Sir Thomas Browne, John Evelyn, Samuel Pepys, John Locke, and John Dryden). Offered in alternate years. Prerequisite: consent of the instructor.

Full course, Semester 1.

222. SEMINAR: MILTON.

Not offered, 1976-77.

An intensive reading of Milton's poems and selected prose. Offered in alternate years. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Carter.

224. SEMINAR: THE RADICAL MODE OF RESTORATION COMEDY.

An investigation of the radical aspects of Restoration Comedy, including, among other things, its exclusiveness, its antiestablishment posture, and its preoccupation with sexuality and perversion. Parallels will be drawn to some other radical dramatic movements, such as the Theatre of Cruelty and the

contemporary Black theatre. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course, Semester 2. Mr. Abraham.

226. SEMINAR: STUDIES IN EIGHTEENTH CENTURY LITERATURE.

The first seven weeks will be focused primarily on the Augustans - the poetry of Pope: Swift's poems, essays and Gulliver's Travels: and Gay's Beggar's Opera. As these authors tend to be intensely topical and satirical, substantial effort will be made to relate them and their writings to the literature, life, and thought of the times. The rest of the term will deal with the Age of Johnson, Although our primary emphasis will be on James Boswell and Samuel Johnson, we will also deal with a number of eighteenth-century poets (to be selected from the following: James Thomson, William Collins, Thomas Gray, Christopher Smart, Oliver Goldsmith, Thomas Chatterton, William Cowper, George Crabbe) and with at least two eighteenth-century dramatists - Goldsmith and Sheridan. The course will be designed flexibly enough to permit students to investigate other contemporary figures in related arts or disciplines (e.g., Bernard Mandeville, David Hume, Edward Gibbon, Sir Joshua Reynolds, Edward Burke). Offered in alternate years. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Carter.

236. BRITISH ROMANTIC LITERATURE.

Not offered, 1976-77.

To define Romanticism, the course will focus on selected writings of English Romantic poets and prose-writers. Relevant works will be studied in depth, but attention will also be paid to biographical, sociological, and philosophical contexts. An effort will be made to correlate British Romanticism with other romanticisms - of nineteenth-century America and continental Europe, of earlier times and of the present. Offered in alternate years.

Full course.

Mr. Blinderman.

238. SEMINAR: WILLIAM BLAKE.

An analysis of the poems and of a selection of the Prophetic Books of Blake, including some consideration of Blake as graphic artist. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Carter.

239. SEMINAR: AMERICAN LITERARY RENAISSANCE. Not offered, 1976-77.

Characteristic writings by Emerson, Thoreau, Hawthorne, Poe. Melville, and Whitman are juxtaposed dialectically to explore the uniqueness of their individual and collective accomplishments and their larger implications in the context of American culture. Field trip to Concord and possibly elsewhere. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course.

Mr. Beard.

242. VICTORIAN LITERATURE.

A study of Victorian values and major intellectual movements as expressed in literature. The first semester concentrates on the idea of Duty (transcendental, utilitarian, Catholic, Darwinian and Dickensian); the second on the idea of Decadence (from the Pre-Raphaelites to Beardsley). Offered in alternate years. Mr. Blinderman. Full course, Semesters 1, 2.

244. SEMINAR: ROMANTIC AND VICTORIAN GOTHIC.

Not offered, 1976-77.

The seminar will call forth the Gothic spirit from its incarnations in architecture, painting, and literature — graveyard poetry, Gothic novels, Frankenstein. Films and field trip. Mr. Blinderman. Full course.

245, SEMINAR: DARWINISM.

This seminar, of an interdisciplinary nature, is devoted to the study of original and research materials elucidating the scientific, philosophical, religious, and social dimensions of Darwinism. The course examines chiefly the survival of the fittest Darwinian ideas in English and American literature. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Blinderman.

247. SEMINAR: DICKENS.

This seminar will consider Dickens as a humorist, an artist, and a social critic in the light of his time and its relevance to ours. Prerequisite: consent of the instructor. Offered at the discretion of the department.

Full course, Semester 2.

Mr. Blinderman.

249. SEMINAR: TWAIN, HOWELLS, AND JAMES.

Not offered, 1976-77.

The course will explore the artistic assumptions and impulses underlying American Realism through selected novels and criticism of America's three greatest realistic novelists. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course.

Mr. Elliott.

251. THE CIVIL WAR IN LITERATURE, 1860-1960.

This course will explore and evaluate the effects of the Civil War on selected American authors. The course will include some background on economic, political, and historical events related to the Civil War and examine how different authors come to terms with American conditions like slavery, industrialization, the Myth of the South, etc. Offered at the discretion of the department.

Full course, Modular Term.

Mr. Elliott.

252. SEMINAR: JOSEPH CONRAD.

A study of his work. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Half course, Modular Term. Mr. Sultan.

254. SEMINAR: REALISM AND NATURALISM IN AMERICAN FICTION.

This course will explore the artistic assumptions underlying American Realism and its off-spring, American Naturalism. The focus will be on the techniques and themes used by such writers as Twain, Howells, James, Crane, Norris, London, and Dreiser. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 1.

Mr. Elliott.

257. SEMINAR: THE IRISH LITERARY MOVEMENT.

A course in the inception, development, and effect of the literary movement during the end of the last century and the first decades of this one that created an Irish literature in English. Writers studied include Yeats, Joyce, Synge, and O'Casey. The cultural, historical, and political backgrounds of Anglo-Irish literature are also studied. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course, Semester 1. Mr. Sultan.

258. LAWRENCE AND JOYCE.

This course is an intensive introduction to the art of the two writers. Poems, short stories, and novels by both will be studied. Prerequisite: consent of the instructor. Full course, Semester 2.

Mr. Sultan.

259. MODERNIST POETRY. Not offered, 1976-77.

A survey, with special attention to the genesis and development of modernism and to tendencies during the last few years toward a dominant new movement in English poetry. The works of almost fifty poets, ranging in time from Emily Dickinson to Robert Creeley, are considered. Offered in alternate years. Full course.

Mr. Sultan.

261. SEMINAR: W. B. YEATS. Not offered, 1976-77.

Intensive study of the accomplishment of Yeats. The principal concern will be his poetry, but attention will be given to his thought, his dramatic and his other writings, and his cultural role in Ireland and the world during his time. Offered at the discretion of the department. Prerequisite: one of the following: Introduction to Poetry, The Irish Literary Movement, T. S. Eliot; also, consent of the instructor.
Full course.

Mr. Sultan.

264. SEMINAR: T.S. ELIOT. Not offered, 1976-77.

An intensive study of the major poems, plays, and critical essays of T. S. Eliot. Offered at the discretion of the department.

Prerequisite: consent of the instructor.

Full course.

Ms. Hilsinger.

266. SEMINAR: VIRGINIA WOOLF. Not offered, 1976-77.

An intensive study of Mrs. Woolf's nine novels, her short stories, her major essays, and her diary. The course will emphasize the artistic process as well as the vision of Mrs. Woolf's work, and it will consider such collateral issues as Mrs. Woolf's critical stance and her feminism. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course.

Ms. Hilsinger.

267. SEMINAR: SPECIAL STUDIES IN TWENTIETH-CENTURY AMERICAN LITERATURE: HEMINGWAY AND FAULKNER.

A seminar devoted to the intensive study of a twentieth-century writer or small group of writers — Hemingway and Faulkner in 1976-77. Offered at the discretion of the department.

Prerequisite: consent of the instructor.

Full course, Semester 1. Mr. Beard.

268. SEMINAR: EUGENE O'NEILL. Not offered, 1976-77.

Intensive study of about twenty of O'Neill's plays, from the early one-acters to *The Iceman Cometh, Long Day's Journey into Night,* and *A Moon for the Misbegotten,* with some attention to ideas, persons, and theatrical movements affecting O'Neill. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course. Mr. Beard.

273. SEMINAR: F. SCOTT FITZGERALD AND THE TWENTIES.

Using Fitzgerald's life and writings as a convenient and indicative matrix, the course will explore the Twenties as a period rich in avant garde creativity, significantly assessing and re-defining traditional literary values and forms. Writers other than Fitzgerald to be considered include Gertrude Stein, Sherwood Anderson, Ernest Hemingway, Sinclair Lewis, William Faulkner, H. L. Mencken, Ezra Pound, T. S. Eliot, E. E. Cummings, William Carlos Williams, Wallace Stevens, and Eugene O'Neill. Some attention will be given to Jazz and its chief classical proponent George Gershwin, and to prominent artists from the popular John Held, Jr. to Picasso. Magazines such as the *The Smart Set* and *The Dial* will be examined and a visit to the great Dial Collection at the Worcester Art Museum scheduled. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Beard.

278. SPECIAL STUDIES IN TWENTIETH-CENTURY LITERATURE.

Tutorial with individual students who will evolve and develop their own projects in English literature or comparative literature (English and French, Spanish, German, or English and more than one of the others). Projects need not be critical papers. Translation, studies in the sociology of literature, the editing of private papers, and other projects may be undertaken. Offered at the discretion of the department. Prerequisite: consent of the instructor.

279. THE LITERATURE OF DECADENCE.

Half course, Modular Term.

Not offered, 1976-77.

Mr. Sultan.

(Previously listed as English 296.) Readings will include Sade, Gautier, Balzac, Poe, Baudelaire, Mallarmé, Huysmans, Pater, Wilde, and Beardsley; as well as some contemporary writers: Borges, Kosinski, Barthelme, and Calvino. The course (while designedly heuristic) will develop a theory of a "decadent" aesthetic, epistemology, and social ethic; and it will provide a multi-focal, inter-disciplinary context in which to view emergent nineteenth and current twentieth century sensibilities. While examining both dominant and counter-cultural movements, the Decadence course will emphasize life and literary styles as indices to cultural expression and self-definition. A high degree of student participation will be expected.

Full course.

Mr. Parsons.

280. HISTORY OF THE ENGLISH LANGUAGE, I & II.

The first semester (I) deals with the development of the phonology and lexicon of English, viewed as a dynamic series of systems. The course also describes the homeland, language, and culture of the Proto-Indo-Europeans as background for a treatment of the structural relationships between English and other languages of the Indo-European family. The second semester (II) concentrates on the development of the grammar of English, also treated dynamically and systemically. The course includes an analysis of the establishment of Standard British English, the doctrine of correctness, and the growth of Modern American English in its sociocultural setting. Prerequisite: consent of the instructor. (M.A. candidates are required to take either the second half of this course or English 284.) Only the second half of this course will be offered in 1976-77. Full course, Semesters 1, 2. Mr. Macris.

282. SEMINAR: OLD ENGLISH. Not offered, 1976-77.

An introduction to Old English language and literature. The works read include King Alfred's preface to Pope Gregory's Pastoral Care and selections from the West Saxon Gospels, from the Old English translation of the Heptateuch, from Aelfric's Colloquy, from the Anglo-Saxon Chronicle, and from the Old English translation of Bede's Historia Ecclesiastica Gentis Anglorum. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course.

Mr. Macris.

284. SEMINAR: MODERN AMERICAN ENGLISH.

This seminar analyzes the grammatical structure of Modern American English. It concentrates on an evaluation system for handling spoken and written English and the application of this system to problems of current English usage. The relevance of linguistic theory and methodology of the teaching of English receives special attention. Offered at the discretion of the department. (M.A. candidates are required to take either this course or the second half of English 280.) Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Macris.

Linguistics 285. SEMANTICS.

Refer to course description under Linguistics.
Mr. Macris.

286, SEMINAR: LINGUISTIC APPROACHES TO LITERATURE. Not offered, 1976-77.

A study of what modern linguistics has to offer in the analysis and criticism of literature, with special attention to the contributions of the generative-transformational, tagmemic, and parametric approaches. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course. Mr. Macris.

Linguistics 287. INTRODUCTION TO LINGUISTICS.

Refer to course description under Linguistics. Mr. Macris.

Linguistics 288. COMPARATIVE AND HISTORICAL LINGUISTICS. Not offered, 1976-77.

Refer to course description under Linguistics. Mr. Macris.

289. THE ART OF BIOGRAPHY.

This course will be a study and appreciation of biography as a literary form, with attention paid to its historical development, its relationship to general history, its varieties ("literary" as distinct from "political", for instance), and the problems confronting a practitioner of the biographical art. As regards the latter, consideration will be given to theories of personality and perception, the nature and testing (for truth) of evidence, and questions of ethics and literary style which are peculiar to lifewriting. The instructor will draw upon his own experience of biographical writing for illustrative or exemplifying material and may call in one or two others, for this purpose. Limited. Full course, Modular Term. Mr. Davis.

291. THE PROTESTING VOICE AND THE INDIGNANT EYE: SATIRE IN LITERATURE AND THE VISUAL ARTS.

Not offered, 1976-77.

(Previously listed as English 292.) A survey of the range and vitality of the genre of SATIRE in literature from Aristophanes to the present and in the visual arts from the fifteenth century to Picasso. Offered at the discretion of the department. Prerequisite: English 10 or at least one semester of study in literature taught in any department. Full course. Mr. Carter.

292. INTERNSHIP TEACHING.

Refer to course description under Education 272. Full course, Semester 2. Mr. Ulerich, Ms. Carr.

293. WORKSHOP IN SECONDARY ENGLISH CURRICULUM.

(Education 293) A study of new approaches to English curriculum and preparation for practice teaching (visiting schools, observing classes, some apprentice teaching and tutoring, and work sessions with cooperating teachers). Full course, Semester 1. Mr. Ulerich.

294. MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH.

Review and application of specific materials and techniques in the teaching of composition and poetry. A seminar involving student interns, specialists, and experienced teachers. Full course, Semester 2. Mr. Ulerich.

295. TEACHING ENGLISH AS A SECOND LANGUAGE.

This course covers the principles and practice of second language teaching, with emphasis on the application of modern linguistics to the teaching of English as a second language. Offered at the discretion of the department. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Macris.

296. WRITING WORKSHOP FOR TEACHERS OF ENGLISH.

A study of writing in the classroom from the perspective of both students and teachers. While class members work on the development of their own writing skills, they will also be required to design and teach at least one writing lesson. Class discussion and assigned readings will focus on the teaching of writing in the classroom. Offered at the discretion of the department. Prerequisite: consent of the instructor. Full course, Semester 1.

297. SEMINAR: VARIETIES OF LITERARY CRITICISM.

Using a small number of model literary works, this course explores the theory and practice of alternative critical perspectives and schools of criticism. Candidates for Honors in English are encouraged to elect either this seminar or English 298., no later than their junior year. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Sultan.

298. SEMINAR: THE MYTHOPOETIC MODE.

This seminar explores the vision and epistemology of mythopoetic literature. Works read and discussed include Shakespeare's Henriad, Milton's Paradise Lost, Bronte's Wuthering Heights, Melville's Moby Dick, and a work of the Modern Period. Candidates for Honors in English are encouraged to elect either this seminar or English 297., in their junior year. Prerequisite: consent of the instructor. Full course, Semester 2. Ms. Hilsinger.

299. HONORS IN ENGLISH: SENIOR YEAR.

Full course. Staff.

300. INTRODUCTION TO GRADUATE STUDY IN ENGLISH.

This course examines certain fundamental aspects of literary theory and considers the nature of and relationships among the three principal areas in the discipline — bibliography and textual analysis, literary history, and literary criticism. Prerequisite: consent of the instructor.

Full course, Semester 2.

Mr. Sultan.

349. THESIS WORKSHOP.

This seminar involves the doing — though not necessarily the completion — of a scholarly-critical project in literature on a professional level. The entire process from initial formulation to final presentation will be considered in the context of the specific individual projects of students in the group. A prerequisite is active commitment to and involvement in such a project. While intended primarily for graduate students in English, undergraduates with appropriate projects — honors theses, for example — from English and allied disciplines may be accepted by permission.

Full course, Semester 2. Mr. Beard.

350. MASTER'S THESIS.

Prerequisite: consent of chairman or Director of Graduate Studies.

Full course. Staff.

351. READING COURSE FOR MASTER'S THESIS.

Normally, only students writing theses in linguistics may take English 351. Prerequisite: consent of chairman or Director of Graduate Studies.

Full course.

Staff.

388. GRADUATE DIRECTED READINGS.

May be elected to pursue in depth a topic other than that chosen for the Master's thesis. Prerequisite: consent of the instructor and of the chairman or the Director of Graduate Studies. Variable credit. Staff.

COMPARATIVE LITERATURE

A student may count any of the courses listed under Comparative Literature toward the English major. In all cases, such electives must be approved by the student's adviser in the English Department as being meaningfully related to the student's overall program of English studies. The four core courses of the Comparative Literature Program — Comparative Literature 190, 230, 240, 251 — are especially recommended.

LINGUISTICS

Linguistics 115. MAN AND LANGUAGE.

Refer to course description under Linguistics. Staff.

Linguistics 260. LINGUISTICS AND LANGUAGE LEARNING.

Refer to course description under Linguistics.

Mr. Reid.

THEATRE ART

Theatre Art 10. INTRODUCTION TO DRAMA.

Refer to course description under Theatre Art.
Mr. Schroeder.

Theatre Art 185. TENNESSEE WILLIAMS.

Refer to course description under Theatre Art.
Mr. Schroeder.

Theatre Art 281. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA. Not offered, 1976-77.

Refer to course description under Theatre Art.

Mr. Schroeder.

Theatre Art 286. SEMINAR: IBSEN.

Refer to course description under Theatre Art.
Mr. Schroeder.

Environmental Affairs

PARTICIPATING FACULTY

Harry E. Schwarz, B.C.E., Program Director, Visiting Professor of Environmental Affairs and Adjunct in Geography

Leonard Berry, Ph.D., Professor of Geography; Co-director, International Development and Social Change Program; Dean of the Graduate School, Coordinator of Research

Saul B. Cohen, Ph.D., Professor of Geography; Director, Graduate School of Geography; Adjunct Professor of Government and International Relations

Roger E. Kasperson, Ph.D., Professor of Government and Geography

Robert W. Kates, Ph.D., University Professor, Professor of Geography

John Reynolds, Ph.D., Professor of Microbiology Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology; Chairman, Department of Psychology Christoph Hohenemser, Ph.D., Associate Professor of Physics Laurence A. Lewis, Ph.D., Associate Professor of Geography
Frank Puffer, Ph.D., Associate Professor of Economics, Dean of
Academic Affairs

Stephen L. Feldman, Ph.D., Assistant Professor of Geography Richard Howard, Ph.D., Assistant Professor of Geography, Adjunct in Biology

Alan A. Jones, Ph.D., Assistant Professor of Chemistry

PROGRAM

This program was developed in response to the challenge of the period of change which is being experienced in relations between people and their environment. New relations require new concepts and reevaluated views of existing ones. Thus, a new field of professional endeavor is evolving to deal with people and their environment. The purpose of this program is to train students for entry-level professional positions in the expanding fields of environmental planning, management, and education. The terminal point of the program is the attainment of the degree of Master of Arts in Environmental Affairs. The baccalaureate degree is incidental to the program, serving as the proof of attainment in a traditional discipline.

Within the program, concentrations are offered in environmental planning on the regional or urban level for land, water, and air, in environmental monitoring and environmental education. The program is flexible in order to accommodate changes in the field and to remain relevant in this dynamic world.

The Environmental Affairs Program offers a student substantive knowledge in an academic discipline, a group of undergraduate courses covering the concepts and tools necessary for working on environmental problems, an internship in an environmental agency and a one-year graduate program involving advanced courses in specialized areas, seminars, and a practicum in which the student develops a terminal project or thesis. Both academic and practical experiences make up the Environmental Affairs program of study.

A central feature of the program is the relationship between student and adviser. By limiting the number of students admitted, close student-adviser relationships are maintained. In this way, the program can be tailored to the individual student's needs through the selection of undergraduate courses which develop a student's disciplinary training while providing a strong foundation on environmental issues.

Where listed courses at Clark do not meet a student's full needs, consortium courses, special projects, and directed readings provide the necessary additional training. A full summer internship is recommended immediately after completion of the baccalaureate degree and before the commencement of graduate work, but the program permits the internship at other periods, such as during the senior year or within the graduate-training span. In the two-year undergraduate part of the program, students are expected to take courses in a chosen discipline and environmental program-oriented courses to complete their baccalaureate requirements. Ten courses are required for graduate credit.

ADMISSION

Because the program is a three-year combined B.A./M.A. program, students normally are admitted at the end of their sophomore or the beginning of their junior year. A small number of graduate students are admitted to the program if their admission adds to the student body a range of backgrounds not available from within. However, those entering the program with a bachelor's degree normally require at least one and one-half years of study to complete the necessary course work.

In order to maintain a close student-faculty relationship, admission to the program is limited to approximately 15 students per year. Selection of persons for admission is based upon an evaluation of the applicant's previous academic record and work experience, plus an interview with the admissions committee. In those cases where the interview requirement

would impose an extreme hardship upon the applicant, a mutually satisfactory alternative may be possible.

Students applying for admission at the junior level are expected to have a cumulative average of about B- or higher, and to have satisfactorily completed at least four courses in the sciences of which at least one each should be in biology and the physical and social sciences. Individual exceptions are possible if competence can be demonstrated in an alternative way. Seniors may be accepted on an individual basis with additional requirements based on the program objective and past experience of the student. Deficiencies may be made up by summer courses prior to entering the program or for one course only by concurrent registration in the junior year.

Since admission to the program is highly restricted, interested students are urged to apply as early as possible to the program director for a determination of their eligibility.

UNDERGRADUATE PROGRAM

The undergraduate portion of the Environmental Affairs Program emphasizes the acquisition of the tools and concepts students need as a base from which to develop their knowledge and skills in environmental affairs. Two options are available to students in their undergraduate years. One, the preferred, is to satisfy a departmental major and an environmental minor and so receive a Bachelor of Arts degree in a traditional discipline. The other is to receive a Bachelor of Arts with a concentration in Environmental Affairs and in a related field such as Biology; Chemistry; Geography; Government; Management; Psychology; Sociology; or Science, Technology and Society. The specific requirements for each of these options are:

Option 1

(Leading to a Bachelor of Arts degree in any discipline with an environmental minor) Fulfillment of requirements of the major in an established discipline and five course credits in Environmental Affairs, including the following:

	Number	Title	Credit
	EA 201	Applications of Systems Analysis to	
		Environmental Problems	1/2
	EA 202	The Biosphere -	1/2
	EA 203	Man's Perception of His Environment	1/2
	EA 204	Environmental Plans and Programs	1/2
Individual course substitutions may be made with the			
approval of the program director. During the senior year,			
students must take at least 2 courses accepted on the			
	graduate level, if they plan to complete graduate work in one		

year. Option 2

(Leading to a Bachelor of Arts degree with concentration in Environmental Affairs) A program jointly designed by the students must take at least two courses accepted on the Graduate Board. This program must include EA 201, 202, 203, 204 (four 1/2 courses), EA 250 (one double strength course); two other EA courses, eight course credits in one field such as Biology; Chemistry; Geography; Government; Management; Psychology; Sociology; or Science, Technology and Society that provide basic skills or are related to environmental problems, and two courses in fields other than the area of concentration that are related to the environment. Individual course substitutions may be made with the approval of the program director. During the senior year, students must take at least two courses acceptable on the graduate level if they plan to complete graduate work in one year.

GRADUATE PROGRAM

Admission: Students that have been enrolled in the program as undergraduates will continue in the graduate phase if they meet the standards of the Graduate School and pass a review of their progress by the Environmental Affairs Program Admissions Committee. A student entering the program with a

bachelor's degree is accepted only if the Environmental Affairs Admissions Committee determines not only that the student is capable of doing the work, but also that the student's admission will further the goals of the program.

Internship: An internship in an agency or firm of at least two months duration in which the intern works on an environmental problem or equivalent practical experience is required. The internship will normally be accomplished during the summer following the baccalaureate. Students will be assigned to internships or can find a position by themselves if such a position is approved by the director of the program.

Coursework: A course program of 10 courses is required, eight courses if the student took two courses acceptable at graduate level in the senior year. This course program will be agreed upon jointly by the student and adviser and will be directed towards a specific focus, such as water or air pollution, planning, monitoring, or any other specific topic. One course credit for research or practical work (EA 330.) on the thesis or terminal project and one for writing the thesis or project (EA 350.) are a required part of the course program. Students entering the program at the graduate level may be required to take additional courses as needed to fill gaps in their undergraduate preparation.

Teaching and Research Prerequisite: Some teaching and research at Clark is prerequisite to the M.A. degree. Every effort is made to provide on and off campus training activity at the teaching and research level.

Master's Project: This can be a terminal project, i.e., the solution to a specific problem or a theis on a research topic. In either case, it must relate to the student's specific course focus, and its topic and outline must be approved by the director of the program.

Financial Aid: Several tuition remission scholarships are available for qualified applicants.

COURSES

101. INTRODUCTORY CASE STUDIES.

Refer to course description under Science, Technology and Society, 101.

201. APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS.

This course will discuss the fundamental concepts of system analyses and their application to environmental problems. Stress will be on the use, applicability, and limitations of this method in analyzing complex environmental systems and their physical, social, and economic aspects. Prerequisite: admission to Environmental Affairs Program or instructor's consent. Half course, first half, Semester 1. Mr. Schwarz.

202. THE BIOSPHERE.

Building on a foundation of general knowledge of physiology, genetics, taxonomy, and ecology, the course will provide a biological context and perspective for the analyses and assessment of man-made environmental hazards. Prerequisite: introductory course in biological science or concurrent registration in such course with instructor's consent.

Half course, second half, Semester 1. Mr. Reynolds.

203. MAN'S PERCEPTION OF HIS ENVIRONMENT.

An introduction to the study of environmental behavior.

Examining man's reactions to environmental changes and natural and man-made hazards.

Half course, first half, Semester 2.

Staff.

204. ENVIRONMENTAL PLANS AND PROGRAMS.

An overview of the planning process with special emphasis on plans and programs in the New England region. Plans and programs now current are examined and their logic and history discussed.

Half course, second half, Semester 2. Mr. Schwarz.

205. READINGS IN ENVIRONMENTAL AFFAIRS.

Directed readings for undergraduates in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2. Staff.

206. RESEARCH IN ENVIRONMENTAL AFFAIRS.

Special research projects for undergraduates in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2. Staff.

210. ENVIRONMENTAL PROTECTION.

A free-wheeling discussion of pollution control in the real world, its legal, institutional, and political framework. Federal, state, and local laws and their scientific basis; agency practice and procedure; public litigation and private "citizen suits"; selecting theories and remedies, both civil and criminal; tactics and strategies; citizen "watchdog" groups; corporate and media responsibility; economy versus ecology; old tools, new tools, potential for change. Reading in multilithed materials with statutes, regulations, court documents, case decisions, news accounts, and journal articles. Informal student advocacy panels to assure balanced presentation of issues.

Full course, Semester 2.

231. SEMINAR: POLITICS AND THE ENVIRONMENT.

A state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or for advanced study. Topics include the concept of the public interest, public attitudes to the environment, regulatory agencies, decision-making theory, the role of Congress, etc. A major seminar presentation and substantive research paper will be required. Prerequisite: consent of the instructor. See also Geography 231.

Full course, Semester 1. Mr. Kasperson.

250. PRACTICAL PROBLEMS IN ENVIRONMENTAL AFFAIRS.

This is a work-study course. The student will work four full (eight hour) days in an environmental agency in the Worcester-Boston area or spend equivalent time on a project at the University. Also, weekly seminars at the University will review and evaluate work experiences. Grades will be awarded on the basis of the student's accomplishment in internship posts and seminars. Does not substitute for required program internship. Prerequisite: consent of the instructor.

Double course, Modular Term. Staff.

300. READINGS IN ENVIRONMENTAL AFFAIRS.

Directed readings for graduate students in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2.

Staff

301. RESEARCH IN ENVIRONMENTAL AFFAIRS.

Directed reading for graduate students in an area of their choice. Consent of instructor required.

Variable credit, Semesters 1, 2.

Staff.

330. PRACTICUM IN ENVIRONMENTAL AFFAIRS.

Individuals or small groups of students will be working on real world problems. Emphasis in this studio course will be on practical problem solving.

Full course, Semesters 1, 2. Mr. Schwarz.

350. THESIS IN ENVIRONMENTAL AFFAIRS.

Preparation of Master's Thesis or of Master's Terminal Project. Full course, Semesters 1, 2. Staff.

COURSES DIRECTLY CREDITABLE IN ENVIRONMENTAL AFFAIRS

For descriptions and details, please refer to course listing within the departments.

Geography 013. FIELD STUDIES OF ENVIRONMENTAL ISSUES.

Full course, Semester 1.

Mr. Kates.

Economics 123.4. SPECIAL PROBLEMS: ENVIRONMENT AND ENERGY.

Full course, Semester 2.

Mr. Shakow.

Chemistry 142. ENVIRONMENTAL CHEMISTRY.

Full course, Semester 1.

Mr. Jones.

Geography 150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

Full course, Semester 2.

Staff.

Geography 151. SPACE, LANDSCAPE, AND ENVIRONMENT IN AMERICA.

Full course, Semester 2.

Mr. Bowden.

Geography 157. THEORY OF RESOURCES.

Full course, Semester 1.

Mr. Feldman.

Geography 191. INTRODUCTION TO MAPMAKING AND CARTOGRAPHY.

Full course, Semester 1.

Mr. Chang.

Geography 200. ENVIRONMENTAL EDUCATION WORKSHOP.

Full course, Semester 1.

Mr. Knos, Mr. Halversón.

Geography 214. GEOMORPHOLOGY AND ENVIRONMENTAL MANAGEMENT.

Full course, Semester 2.

Mr. Prior.

Geography 221. APPLIED SURFACE WATER HYDROLOGY.

Full course, Semester 2.

Mr. Schwarz.

Biology 239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

Full course, Semester 2.

Mr. Reynolds.

Geography 257. SPATIAL ASPECTS OF RESOURCE UTILIZATION.

Full course, Semester 2.

Mr. Feldman.

Geography 275. CITIZEN PARTICIPATION.

Full course, Semester 2.

Mr. Kasperson.

Geography 347. SEMINAR IN SYSTEMS ANALYSIS.

Full course, Semester 1.

Mr. Schwarz, Mr. Howard.

Film Studies

(See Department of Visual and Performing Arts.)

Foreign Languages and Literatures

DEPARTMENT FACULTY

Walter Schatzberg, Ph.D., Professor of German, Dept. Chrm. Raymond E. Barbera, Ph.D., Professor of Romance Languages Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish Kenneth Hughes, Ph.D., Associate Professor of German Hartmut Kaiser, Ph.D., Associate Professor of Romance J. Fannin King, M.A., Associate Professor of Romance

Michael K. Spingler, Ph.D., Associate Professor of French Paul F. Burke, Jr., Ph.D., Assistant Professor of Classics Dorothy Kaufmann McCall, Ph.D., Assistant Professor of French Jane Oyarzun, Ph.D., Visiting Assistant Professor of

Spanish

Languages

Irene Kriskijans, Ph.D., Lecturer in Russian Gale H. Nigrosh, M.A.T., Lecturer in French Catherine Q. Spingler, M.A., Lecturer in French

PROFESSORS EMERITI IN RESIDENCE

Karl J.R. Arndt, Ph.D., Professor of German, Emeritus J. Richard Reid, Ph.D., Professor of Romance Languages, Emeritus

UNDERGRADUATE PROGRAM

The Major in Foreign Languages and Literatures

The major in foreign languages and literatures concentrates particularly on the way in which nations may express the consciousness of their culture through literature and other arts. The interdisciplinary and humanistic spirit of the program encourages the student to relate studies in literature to other areas of the humanities and social sciences such as history, philosophy, fine arts, geography, psychology, and sociology in order to arrive at an understanding of the cultural traditions of other nations.

Requirements

1) No fewer than eight courses beyond the intermediate level in one or more foreign languages.

 A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with his faculty advisor.

3) If the major program is concentrated in one language, a reading knowledge of a second language is recommended.

4) At least one course in linguistics is recommended.
The department does not require the student to follow a
rigid sequence of courses. Yet, the nature of language study
clearly indicates a basic progression which the typical student

Essentially, departmental offerings for the foreign language

major may be organized in the following groups:

1) Skill-oriented courses including conversation, composition, translation (11, 12, 100's)

Cross-cultural courses and courses focusing on literature and the fine arts including films and theatre (100's)

- Courses in literature which concentrate on particular themes, theories, problems, critical approaches (100's, 200's)
- Courses in major figures, literary history, the styles of particular historical periods, and surveys of literature. (100's, 200's)

These groupings are not mutually exclusive and, in the case of group two, some courses in film and theatre could be considered to share some of the goals of a conversation or composition course but on a more advanced level. Similarly, it

would not be possible to address oneself to the study of a style, say that of the Baroque, without pursuing questions of critical approaches and literary theory. However, the grouping is meant to assist the student by suggesting ways of organizing his/her progress within the major, beginning with the mastering of language skills and critical methods, and then proceeding to the application of those skills and methods to particular cultural and literary areas.

The Major in Comparative Literature

The major in Comparative Literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program which in turn reflects the broadest possible frame in which to pursue his/her study of literature.

Requirements

- No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
- 2) Suggested sequence of core courses in Comparative Literature:
 - a) Ideally, the student should have taken Problems in Comparative Literature (C.L. 110) or Critical Approaches to Literature (C.L. 190) by the end of the sophomore year, although this recommendation does not preclude taking either at a later time.
 - b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (C.L. 230), Elements of Narrative (C.L. 240) or English Poetry (English 13). Again, in certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the adviser.
 - c) While a student may wish to devote his/her senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar on Literary Theory and Practice (C.L. 251).
- 3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with her/his faculty adviser.

The Advisory System

Since the department believes that individual courses will assume their relevance only in the context of a total program which will have sufficient flexibility to take the student's intellectual biography into account, it emphasizes strongly the close association between student and faculty advisers. The basic role of the adviser is to work closely with the student to ensure that the program developed between them will enhance and reflect the student's scholarly growth.

Although all members of the department serve as faculty advisers, the following have been designated as advisers in the major areas of concentration offered by the department:

Comparative Literature: Mr. Schatzberg

French: Mr. Spingler German: Mr. Kaiser Spanish: Mr. D'Lugo

Students are encouraged to develop a foreign languages program involving two or more languages. To discuss this possibility as well as to plan career goals and options contact Mr. Schatzberg.

Study Abroad

Students of foreign languages and literatures may study abroad either for a summer, one semester, or an entire year. Through the University's affiliation with the Institute of European Studies, campuses in Vienna, Freiburg, Paris, Nantes, Madrid, Durham, and London are readily accessible to Clark students.

For further information and to explore possibilities, contact Mr. Schatzberg.

Study in Mexico

Through affiliations with the State University of Guadalajara and the Instituto Cultural Mexicano-Norteamericano (ICMN), Clark offers qualified students the opportunity to live and study for either one half or a full semester in Mexico. In both programs, students are housed with select Mexican families and pursue courses of study in diverse fields including: Spanish language, Mexican history, culture, anthropology, archaeology, literature, and art history.

A) Modular Term at the Instituto Mexicano-Norteamericano (ICMN) — A two-part modular program offering the student a one-week orientation period at Clark with mini-seminars in language, culture, history, and literature of Mexico. The second part of the program will be a five-week residency in Guadalajara, Mexico's second largest city and center of diverse cultural and historical importance where students will take one or two units of intensive study. Activities include optional side trips to nearby sites of interest. Application due no later than the beginning of Semester two. See Mr. D'Lugo.

B) State University of Jalisco in Guadalajara. Semester Program. — A unique one-semester/or full-year study program. Students will be housed with select Mexican families and pursue a full academic program in the Faculty of Philosophy and Letters of the State University. All courses taught in Spanish. The student is fully integrated into campus life. All courses will be taught by Mexican faculty and are attended by Mexican students, with some qualified foreign students. High proficiency in Spanish is required. Prerequisite for application to the semester program is successful completion of the ICMN module in Guadalajara or sufficient prior experience living in a Spanish-speaking country. Deadline for application: the beginning of the semester prior to attendance at the University. Course offerings in history, literature, archaeology, art history, etc. See Mr. D'Lugo.

Language Dormitories

French and Spanish quads with native speakers in residence are available in the Carriage House. Interested students should notify the department secretary.

UNDERGRADUATE-GRADUATE PROGRAM: THE B.A./M.A. PROGRAM IN COMPARATIVE LITERATURE

The B.A./M.A. Program in Comparative Literature is a course of studies integrating the last two undergraduate years with the first year of graduate work. It permits and requires a careful planning and coordination of course work, independent study and research, and the preparation of a master's thesis over a three year period beginning with the junior year. The program, which is described in greater detail elsewhere in this *Bulletin*, is currently in its fourth year of operation. It involves as many as ten faculty members and 20 to 25 students who have a demonstrated interest in literature and literary criticism. For further information concerning the program's admission standards, requirements, methodology, and goals, contact Mr. Barbera or Mr. Schatzberg.

DEPARTMENT COURSES

- A. French
- B. German
- C. Hebrew
- D. Russian
- E. Spanish

A. FRENCH

French 11. ELEMENTARY.

For beginners with no background in the language. Grounding in all four language skills (hearing, speaking, reading, writing) as preparations for subsequent courses conducted in the language. Individual work in the language laboratory. Indivisible course. Full course, Semesters 1, 2.

Ms. Spingler.

French 11. ELEMENTARY (ADVANCED SECTION).

A fresh start for students with some previous exposure to the language, but who are not yet prepared to enter the intermediate course. Designed to impart an active knowledge of French, through grammar study and oral practice, in class and in the language laboratory with integrated short readings in French prose, poetry and theatre. Indivisible course.

Full course, Semesters 1, 2. Ms. Nigrosh.

French 12.INTERMEDIATE.

Review of French grammar. Reading and discussion of provocative works in journalistic and literary prose, as well as poetry and theatre to acquaint students with outstanding personalities and ideas in French literature. Conducted in French. Individual work in the language laboratory. Prerequisite: French 11 or equivalent background in the language. Full course, Semester 1. Ms. Spingler, Ms. Nigrosh.

French 120. JEUX DE MOTS: WORD PLAY IN FRENCH.

For students with intermediate-level skills in the language who want to develop vocabulary and grammar through creative writing. Assignments will focus on particular aspects of French syntax and style using various short texts — prose and poetry — as points of departure. Topics will include sound symbolism, syntax as metaphor, and the problem of translation. Conducted primarily in French. Weekly dictation exercises in the language lab. Limited to 15 students. Prerequisite: 1 semester of second-year French or its equivalent.

Full course, Semester 2.

Ms. Nigrosh.

French 127. SPEAKING FRENCH: INTERMEDIATE LEVEL.

The goal of the course is to increase the oral fluency of the student at the intermediate level. Some class discussions will focus on examples of French culture in our own environment. Trips around Worcester and Boston to see films and visit museums will provide the stimuli for these discussions. Other topics of conversation will be based on group interest. Prerequisite: French 12.
Full course, Semester 2.

French 129. SKILLS AND TECHNIQUES IN READING FRENCH.

This course provides a transition from speaking to reading with ease and understanding for the student who has the fundamentals of the French language. Starting with easy contemporary French (a novel of Georges Simenon), the class progresses through a brief experience with French poetry to the somewhat more difficult French of Jean-Paul Sartre in two of his plays (Huis-clos and Les Mouches). A textbook with the same title as this course helps increase vocabulary understanding of French syntax and diomatic structure and other reading skills. Close attention is given in class to the precise meaning of words, phrases, verb tenses, etc. Prerequisite: French 12., or equivalent skill in the language to be determined by consultation with professors.

Full course, Semester 1.

French 130. READINGS IN FRENCH LITERATURE.

Logical in sequence to French 129, continued close attention to

vocabulary, idioms, sentence structure, exact meaning of phrases and sentences. Increased attention to artistic effects and stylistic values. Readings: Simenon, Collected short stories; Anouilh, Antigone; and Contes Modernes, a collection of twentieth century works. Prerequisite: French 129., 131., or equivalent.

Full course, Semester 2.

Mr. King.

French 131. READINGS IN FRENCH LITERATURE: DRAMA AND POETRY.

The course is intended for students at the third-year level who wish to enhance their skills in reading, writing, and understanding French through a study of provocative modern French literary works chosen for their intrinsic interest and for their linguistic accessibility. Emphasis on literary analysis; class discussions in French. Readings will include plays by Anouilh, Sartre, and Beckett; selected poetry of Baudelaire, Rimbaud, and Verlaine. Prerequisite: the second semester of French 12., or consent of the instructor.

Full course, Semester 1. Ms. McCall.

French 132. READINGS IN FRENCH LITERATURE: NARRATIVE PROSE.

Primarily intended as a sequel to French 131., (see description above). Readings will include Gide, L'Immoraliste; Radiguet, Le Diable au corps; Colette, Le Blé en herbe; Simone de Beauvoir, La Femme rompue; Sartre, L'Enfance d'un chef; Camus, L'Etranger. Prerequisite: French 129 or higher level course, or consent of the instructor.

Full course, Semester 2.

Ms. McCall.

French 137. ORAL AND WRITTEN FRENCH.

The aim of this third-year course is to perfect skills in communication both oral and written. In this semester of a two-semester course, particular attention is given to the sounds of French and to its rhythm and melodic patterns. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the Language Laboratory. Prerequisite: Grade of B- or higher in French 12., or equivalent skill in the language, to be determined by a placement test. Admission subject to consent of instructor.

Full course, Semester 1.

Mr. King.

French 138. ORAL AND WRITTEN FRENCH.

The aim of this third-year-level course is to perfect skills in communication both oral and written. This is the second semester of French 137. In this semester, increasing attention is given to grammatical patterns and written French and fluency in the spoken language. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the Language Laboratory. Prerequisite: Grade of B- or higher in French 12., or equivalent skill in the language, to be determined by a placement test. Admission subject to consent of instructor. Full course, Semester 2.

French 140. ASPECTS AND PROBLEMS OF CONTEMPORARY FRANCE.

A cross-cultural course concentrating on the evolution in the twentieth century of traditional French values, myths, and social institutions. The course will recognize the critical stance assumed by such French critics of France as Jean-Francois Revel in his works, En France and Ni Marx Ni Jésus. Particular attention will be paid to the historical and social background of the students and workers protest and strike known as the Events of May 1968. Additional source material will consist of films, novels, and periodicals. Conducted in French. Prerequisite: French 130., or higher level course or consent of the instructor. Full course, Semester 2.

French 160. THE FILMS OF JEAN RENOIR.

Analysis of the cinematic language and aesthetic of Jean Renoir with particular attention to the way in which they reflect French traditions, mental structures, and social values. Readings will include film scripts, film criticism, and source texts. Attendance at approximately 8-10 films will be required. Conducted in French. Prerequisite: French 130., or consent of the instructor. Full course, Semester 1.

Mr. Spingler.

French 165. FRENCH PLAY PRODUCTION.

A course designed to provide direct experience of the theatrical synthesis within which the play and the actor operate. The course will concentrate on one playwright, studying him in terms of all the problems peculiar to the staging of his plays — sets, props, costumes, acting styles, gestures, and blocking. The practical aspects will be synthesized with academic research into the dramaturgy, themes, social context, and style of the author's period. Possible playwrights to be studied: Molière, Marivaux, Ionesco, Beckett. For the fall of 1976, the playwright will be Molière. Prerequisite: speaking knowledge of French and consent of the instructor. Given in French.

Full course, Semester 1.

French 170. ESSAYS OF THE SELF.

A study of modes of subjectivity in the French tradition through seminal works of self-analysis and autobiography. We will explore the relationships between self-expression, self-creation, and philosophy. Texts will include Montaigne, Essais; Pascal, Pensées; Rousseau, Les Confessions; Baudelaire, Mon coeur mis à nu; Colette, La Naissance du jour; Sartre, Les Mots. Students will be asked to keep a journal of their readings. Prerequisite: one third-year-level course, or permission of the instructor.
Full course, Semester 2. Ms. McCall.

French 175. SARTRE AND CAMUS. Not offered, 1976-77.

A study of the major literary works of Sartre and Camus in the context of each writer's philosophical and political theories.

Full course.

Ms. McCall.

French 230. IMAGES OF WOMEN IN THE FRENCH NOVEL: MEN CREATING WOMEN. Not offered, 1976-77.

Through the historical examination of a tradition which has been central in shaping our notions of women and of love, we will try to come to some understanding of the roles of women in the male imagination, and how these roles have affected women's fantasies and realities. Readings will include *Tristan et Iseut, La Nouvelle Héloise, Les Liaisons Dangereuses, Madame Bovary, Une Vie, Nadja, L'Histoire d'O,* with reference throughout the course to relevant historical and theoretical texts.

Full course.

Ms. McCall.

French 232. IMAGES OF WOMEN IN THE FRENCH NOVEL: WOMEN CREATING WOMAN. Not offered, 1976-77.

Through the historical study of women writers in France, we will examine the notion of feminine sensibility and try to understand how each writer's sense of herself as a woman affects her writing. Readings will include works by and about Mme. de Lafayette, Mme. de Staël, George Sand, Colette, Simone de Beauvoir, Christiane Rochefort, Monique Wittig. Full course.

Ms. McCall.

French 241. GENERAL VIEW OF FRENCH LITERATURE, CHARLEMAGNE TO LOUIS XIV.

From the Middle Ages through the Age of Louis XIV. An interpretation of the main currents of French literature from the Chanson de Roland through the period of the great classicists of the seventeenth century. Each period is studied concentrating on a limited number of authors of schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Full course, Semester 1. Mr. King.

French 242. GENERAL VIEW OF FRENCH LITERATURE, VOLTAIRE TO PROUST.

From the beginning of the Age of Enlightenment to the Early Twentieth Century. An interpretation of the main currents of French literature between the age of Louis XIV and the First World War. Each period is studied concentrating on a limited number of authors or schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Prerequisite: Grade of B- or higher in a third-year course. Full course, Semester 2.

French 253. FRENCH POETRY FROM CHENIER TO VERLAINE. Not offered, 1976-77.

Mr. King.

From the rebirth of lyric verse at the time of the French Revolution through the romantic outburst, the Parnassian perfection, to Baudelaire and his followers in the symbolist movement. Poets to be emphasized: Chénier, Hugo, Vigny, Hérédia, Baudelaire, Verlaine. Admission subject to the consent of the instructor.

Full course. Mr. King.

French 255. THE MODERN FRENCH THEATRE.

A study of the origins and development of le théâtre nouveau with emphasis on dramaturgy and mise en scène. The focus of the course is upon the theatre since 1950 especially lonesco, Beckett, Genêt, and Arrabal, but the course also explores the affinities between these playwrights and the Dada and Surrealist movements, and studies three precursors: Jarry, Ghelderode, and Artaud. Conducted in French. Full course, Semester 2. Mr. Spingler.

French 256. THE MODERN FRENCH NOVEL.

A study of major innovative novels in twentieth-century French literature. Texts will include Proust, Combray; Gide, Les Faux Monnayeurs; Malraux, La Condition humaine; Sartre, La Nausée ; Camus, La Chute ; Nathalie Sarraute, Entre la vie et la mort. Prerequisite: at least one course beyond French 131., or permission of the instructor. Full course, Semester 1. Ms. McCall.

French 257. FRENCH CLASSICAL TRAGEDY. Not offered, 1976-77.

An intensive study of some of Corneille's and Racine's major. tragedies. These will be analyzed closely from the point of view of dramaturgy, structure, and myth. Full course. Mr. Spingler.

French 258. EXPERIMENTS IN SELF-CONSCIOUS

NARRATIVE: **NOVEL AND AUTOBIOGRAPHY.** Not offered, 1976-77.

A study of contemporary French prose from the point of view of the author's self-affirmation through narrative. The problem of a possibly blurred division between fact and fiction, history and myth, will be explored through a study of novels and autobiographies of Gide, Sartre, Genêt, Beckett, Michel Leiris, and Henri Michaux.

Full course.

Mr. Spingler.

French 261. SENIOR TUTORIAL.

A program of extensive readings and of tutorial meetings designed to provide students with a broad view of the whole of French literature. The readings will be planned individually for each student in order to complement his/her previous course work.

Staff.

French 106. SPECIAL TOPICS IN FRENCH.

Variable credit, Semesters 1, 2, Modular Term. Staff.

French 206. SPECIAL TOPICS IN FRENCH.

Variable credit, Semesters 1, 2, Modular Term.

French 208. TEACHING LAB IN FRENCH.

A teaching apprenticeship experience offered to graduate students and to exceptional undergraduates who have demonstrated potential capability in this area. The teaching apprentice, under the supervision of the regular course instructor, is gradually exposed to all the aspects involved in teaching a foreign language course (planning and organization, preparation, presentation, evaluation) and is encouraged to become a co-teacher to the greatest extent possible. Full course. Staff.

B. GERMAN

German 10. READING KNOWLEDGE OF GERMAN.

Not offered, 1976-77.

A course in grammar and reading that will provide the student with the ability to read scientific and scholarly literature of average difficulty. No previous knowledge of German required. Indivisible course. Offered in alternate years. Full course. Mr. Schatzberg.

German 11. INTRODUCTORY GERMAN.

This course is designed to impart an active command of the German language. It combines the study of grammar with oral practice and readings in literary and expository prose. Indivisible course.

Full course, Semester 1. Full course, Semester 2.

Mr. Hughes, Mr. Schatzberg.

Staff.

German 12. INTERMEDIATE GERMAN.

Review of German grammar. Reading and discussion of significant works in prose, poetry, and drama to acquaint students with outstanding writers and ideas in German literature and culture. Conducted in German. Individual work in the language laboratory. Weekly written assignments. Prerequisite: German 11 or equivalent background in the language. Full course, Semester 1. Mr. Hughes, Mr. Kaiser, Full course, Semester 2. Mr. Kaiser.

German 127. DRAMATIC EXPRESSION IN GERMAN.

Not offered, 1976-77.

This course provides the more advanced student of the language with the opportunity to refine and practice the habits of gesticulation, intonation and rhythm which characterize contemporary spoken German. Under close supervision, the class studies and learns one or more contemporary plays with a view to eventual production or dramatic reading of the piece(s). Emphasis is placed on pronunciation and gesture, and on the development of those intonational refinements appropriate to the interpersonal situations of the texts studied. Although discussion of the dramatic works as literature is clearly necessary, it should be noted that the course is essentially an advanced language course. Active participation of all students is required. Examination consists in the preparation of a dramatic passage which the student has prepared outside of class.

Prerequisite: German 12 or equivalent.
Full course. Mr. Hughes.

German 128. SPOKEN AND WRITTEN GERMAN.

This third-year-level course aims at strengthening good speech habits with regard to German grammar and syntax, at expanding the active vocabulary, and at improving the students' ability to express themselves in writing. Literary and journalistic texts will serve as a basis for discussion of important issues in contemporary Germany. Weekly written assignments. Recommended for majors and as preparation for German 132. Prerequisite: German 12., or equivalent.

Full course, Semester 1.

Mr. Kaiser.

German 130. MODERN GERMAN PROSE.

Selected works by Mann, Hesse, Kafka, Dürrenmatt, and Grass. Discussions, oral and written reports. This course, which is conducted in English, is also available for credit in German. Students selecting this option will read all works in German and meet with the instructor for one additional hour per week. Prerequisite: German 12., or equivalent.

Full course, Semester 2.

Mr. Hughes.

German 132. ADVANCED COMPOSITION AND CONVERSATION. Not offered, 1976-77.

Designed to develop accuracy and fluency of oral and written expression. Review of selected problems of grammar and exercises in idiomatic use of the language. Reading and analysis of modern short stories and discussion of significant aspects of contemporary German. Oral reports, weekly compositions. Required of majors. Prerequisite: German 12., or equivalent. Admission subject to consent of instructor.

Full course.

Mr. Kajser

German 135. EXPOSITORY AND CREATIVE WRITING.

The goal of this course is to help students develop greater fluency in written German through exercises first based on models of expository and literary prose and later leading to free compositions and short creative prose pieces. Prerequisite: One course beyond German 12., or equivalent.

Full course, Semester 2.

Mr. Schatzberg.

German 136. GERMAN LYRIC POETRY. Not offered, 1976-77.

Although examples from Luther to the present will be studied, the course is not primarily a survey of German lyric poetry, but rather an intensive study of selected poems. The student should, in analyzing the poems, gain some insight into the nature of the poetic statement, including the technical aspects of prosody. Wherever possible, musical settings will be considered to enrich the aesthetic experience. Prerequisite: German 12., or equivalent.

Full course. Mr. Kaiser.

German 138. MODERN GERMAN DRAMA.

Not offered, 1976-77.

Reading and interpretation of selected plays by Brecht, Frisch, Dürrenmatt, Grass, Weiss, and Handke. Discussions, oral and written reports in German. Dramatic readings of selected scenes will be practiced with a view to introducing the element of performance in the interpretation of a text. Prerequisite: German 12., or equivalent.

Full course. Mr. Schatzberg.

German 142. GERMAN ROMANTICISM.

An analysis of German Romanticism from its beginning in the seventeen-nineties to its decline in the eighteen-thirties. Aesthetic credos, lyric poetry, the drama, major prose works (among them the fairy tale as an art form) will be discussed in their relation to the intellectual history of the period. Authors include the Schlegel brothers, Hölderlin, Novalis, Tieck,

Wackenroder, Kleist, Brentano, E.T.A. Hoffmann, Eichendorff, and Heine. Prerequisite: German 12., or equivalent. Full course, Semester 2.

Mr. Kaiser.

German 145. THE GERMAN NOVELLE. Not offered, 1976-77.

An historical and critical study of this uniquely German genre. Particular attention will be paid to narrative technique and to the typical features of the novelle distinguishing it from the short story on the one hand and from the novel on the other. Selections range from Early Romanticism to Thomas Mann. Where applicable, a number of poems by the author under consideration will be discussed. Prerequisite: German 12., or equivalent.

Full course. Mr. Kaiser.

German 155. NINETEENTH CENTURY GERMAN LITERATURE. Not offered, 1976-77.

A study of post-Romantic movements ("Biedermeier," Young Germany, Poetic Realism) and their relation to intellectual and social trends. Discussion and analysis of representative dramatic and narrative works as well as poetry by Grillparzer, Gotthelf, Droste-Hülshoff, Mörike, Stifter, Heine, Büchner, Keller, Storm, Meyer, Fontane. Prerequisite: German 12., or equivalent.

Full course.

Mr. Kaiser.

German 162. GOETHE'S FAUST. Not offered, 1976-77.

Reading and interpretation of Goethe's Faust I and II.
Discussions, oral and written reports in German. Prerequisite:
German 12., or consent of the instructor.
Full course.

Mr. Schatzberg.

German 166. GERMAN DRAMA FROM LESSING TO EXPRESSIONISM.

Reading and discussion of representative plays by the chief German dramatists from the end of the eighteenth to the early twentieth century. The course will focus on the sociopolitical aspects of these works, on the aims and concepts of the dramatic art and the changing traditions of playwriting. Authors include Lessing, Goethe, Schiller, Kleist, Grillparzer, Büchner, Hebbel, Hauptmann, Schnitzler, and Kaiser. Prerequisite: German 12., or equivalent.
Full course, Semester 1.

German 170. THOMAS MANN. Not offered, 1976-77.

A concentrated study of the short stories and of the novel Felix Krull. Mann's development is traced from his early aestheticism and cultural pessimism to his later avowal of democratic socialism and historical optimism. Discussions of Nietzsche, Schopenhauer, Wagner, and Freud will illuminate Mann's changing perspective and artistic values and will take into account some reading in the historical background of the time. Full course.

Mr. Hughes.

German 172. NATURALIST AND EXPRESSIONIST DRAMA. Not offered, 1976-77.

Drama during the last quarter of the nineteenth and the first quarter of the twentieth centuries. Writers to be read include Hauptmann, Schnitzler, Kaiser, Wedekind, Hofmannsthal, Barlach, and Brecht; themes include decadence and impressionism. The dramatic "movements" will be related to the social and aesthetic theories which underlie them. This half century is extremely diverse and politically unstable in Germany and Austria; some reading in the cultural and historical background will be necessary.

Full course.

Mr. Hughes.

German 190. GOETHE.

An introduction to the life and work of Goethe, excepting his Faust. Prerequisite: consent of the instructor. Conducted in

German.

Full course, Semester 1.

Mr. Schatzberg.

German 192. SCHILLER AND KLEIST. Not offered, 1976-77.

A study of major literary works of Schiller (drama, poetry) and Kleist (drama, narrative prose). The works will be considered in terms of the historical epoch in which they were written. Discussion will focus on structural, moral, socio-political, and existential aspects. Conducted in German. Prerequisite: German 12., or equivalent.

Full course.

Mr. Kaiser.

German 196. INDEPENDENT READING AND RESEARCH IN GERMAN LITERATURE.

Independent course of study limited to qualified juniors and seniors. Reading and research will be in German or English and the program arranged individually. Prerequisite: consent of the instructor.

Variable credit, Semesters 1, 2.

Staff.

German 106. SPECIAL TOPICS IN GERMAN.

Variable credit, Semesters 1, 2.

Staff.

German 206. SPECIAL TOPICS IN GERMAN.

Variable credit, Semesters 1, 2.

Staff.

GERMAN LITERATURE COURSES TAUGHT IN ENGLISH

German 116. COLLOQUIUM ON MODERN GERMAN LITERATURE. Not offered, 1976-77,

The purpose of this course is to examine some of the dominant themes in modern German literature and to acquire skill in interpreting literary works. Enrollment is limited to assure every student the opportunity for active participation. Conducted in English.

Full course.

Mr. Schatzberg.

German 130. MODERN GERMAN PROSE.

Selected works by Mann, Hesse, Kafka, Dürrenmatt, and Grass. Discussions, oral and written reports. This course, which is conducted in English, is also available for credit in German. Students selecting this option will read all works in German and meet with the instructor for one additional hour per week. Prerequisite for those desiring to take course for German credit: German 12., or equivalent.

Full course, Semester 2.

Mr. Hughes.

German 152. THE MEDIEVAL GERMAN EPIC.

Not offered, 1976-77.

Around the year 1200, a number of epic masterpieces were produced in Germany which have taken their place in world literature. The following works, which represent the finest examples of the heroic and courtly epic tradition in German literature, will be studied: The Nibelungenlied, Hartmann von Aue's Gregorius, Wolfram von Eschenbach's Parzival, and Gottfried von Strassburg's Tristan. The structure of medieval society, religious ideals, the chivalric code as well as Germanic mythology, the legends of the Celtic King Arthur, and historical events, especially the Crusades, will be dealt with to the extent they are reflected in these works. Conducted in English. Full course. Mr. Kaiser.

German 168, MUSIC IN GERMAN LITERATURE AND THOUGHT.

Countless musicians, philosophers, and writers have speculated on the nature of music, its mysterious power to influence people and to communicate strong feelings. This course will be devoted to reading and discussion of works by the following authors from the German speaking countries of the nineteenth and twentieth centuries: Wackenroder, Kleist, Schopenhauer, E.T.A. Hoffmann, Goethe, Grillparzer, Heine, Mörike, Wagner,

Nietzsche, Hesse, and Thomas Mann. The approach will be predominantly thematic; however, several works will be studied which reveal the author's successful attempts to employ musical devices and structures in his literary creations. Conducted in Enalish.

Full course, Semester 2.

Mr. Kaiser.

German 182. HESSE SEMINAR. Not offered, 1976-77.

A study of Hesse's major novels, Demian, Steppenwolf, Narcissus and Goldmund, The Journey to the East, and The Glass Bead Game, with selected readings from Nietzsche, Freud, and Jung as significant formative influences on the author's intellectual and artistic development. Conducted in English.

Half course.

Mr. Schatzberg.

German 183. KAFKA SEMINAR. Not offered, 1976-77.

A careful study of Kafka's short stories, parables, and aphorisms. Prerequisite: good familiarity with the major short stories and novels of Kafka. Conducted in English. Mr. Schatzberg. Half course.

C. HEBREW

Hebrew 11. ELEMENTARY HEBREW.

Emphasis on the spoken, living Hebrew language. Acquisition of vocabulary and basic grammar through reading of simple texts. Part of course, audio-visual method of "Habet U Shma." Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Indivisible course. Full course, Semester 1.

Full course, Semester 2.

Ms. Raviv.

Hebrew 12. INTERMEDIATE HEBREW.

Reading of graded texts: selected works from modern Hebrew literature, newspapers, etc. Enrichment and reinforcement of grammatical structures and written expression. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Prerequisite: the equivalent of Hebrew 11.

Full course, Semester 1.

Full course, Semester 2.

Ms. Raviv.

Hebrew 130. ADVANCED HEBREW.

A language-literature course based on readings of simple texts in contemporary Hebrew prose, drama, poetry. Advanced grammar and composition, with emphasis on the spoken language. Prerequisite: Intermediate Hebrew or the equivalent. Full course, Semester 1.

Full course, Semester 2.

Ms. Raviv.

LITERATURE COURSES TAUGHT IN ENGLISH

Hebrew 118. EXEGESIS OF THE BIBLICAL BOOK OF GENESIS.

A critical analysis of the Hebrew text of Genesis, with a consideration of some Rabbinic commentaries. A fair reading knowledge of Hebrew is required.

Full course, Semester 1.

Mr. Klein.

Hebrew 119. HEBREW SCRIPTURES — PENTATEUCHAL AND HISTORICAL BOOKS. Not offered, 1976-77.

A survey and critical analysis of Genesis, Exodus, Leviticus, Numbers, Deuteronomy, Joshua, Judges, Samuel, and Kings. Full course. Mr. Klein.

Hebrew 120. HEBREW SCRIPTURES - PROPHETIC AND WISDOM LITERATURE. Not offered, 1976-77.

An analysis of relevant texts in Amos, Hosea, Micah, Isaiah, Jeremiah, Ezekiel in terms of their historical, social, and

religious background and their role in shaping the thinking of the Biblical Age.

Full course.

Mr. Klein.

Hebrew 185. TRENDS AND VALUES IN YIDDISH LITERATURE.

An outline of the major lines of development from the folk literature of the sixteenth century to the contemporary short story, novel, essay, and poem. Yiddish literature will be viewed both as an aspect of world literature and as a major factor in the preservation and enhancement of the specific distinguishing characteristics of the Jewish experience.

Full course, Semester 1.

Mr. Goldsmith.

D. RUSSIAN

Clark students may take additional courses in Russian language and literature at the College of the Holy Cross and Assumption College through the Consortium.

Russian 11. INTRODUCTORY RUSSIAN.

An introduction to the written and spoken language. Four class periods and three laboratory sessions a week. Indivisible course. Full course, Semester 1.

Full course, Semester 2.

Ms. Kriskijans.

Russian 12. INTERMEDIATE RUSSIAN.

Advanced Russian grammar. Continued emphasis upon reading and conversation. Three class periods, one supervised drill session, and three laboratory sessions a week. Open to qualified freshmen.

Full course, Semester 1.

Full course, Semester 2.

Ms. Kriskijans.

Russian 106. DIRECTED READING.

Students interested in specific authors and/or topics in Russian literature and civilization may receive instruction and guidance in either English or Russian.

Variable credit.

Ms. Kriskijans.

E. SPANISH

Spanish 11. ELEMENTARY.

For beginners or others not yet qualified to enter the intermediate course. Grounding in all four language skills (hearing, speaking, reading, writing) as preparation for subsequent courses conducted in the language. Three class meetings a week plus individual work in the language laboratory. Indivisible course.

Full course, Semester 1.

Full course, Semester 2.

Ms. Oyarzun.

Spanish 12. INTERMEDIATE.

Consolidation of basic skills in the language for students who have previously completed Spanish 11., or its equivalent. First semester stresses development of oral facility in Spanish through a variety of exercises including: taped interviews with native-speakers, improvisational acting in brief scenes from plays, and discussions based upon readings related to topics of Hispanic society and culture. Grammar review will be based upon the specific needs of the group. Prerequisite: Spanish 11., or equivalent skill in the language.

Spring semester will include more extensive readings on themes of Hispanic culture as the basis for class discussion and essay assignments. The focus of the spring semester will be those activities in speaking, reading, and writing which will provide the students with sufficient mastery of basic skills in Spanish so as to allow for reasonable adjustment to advanced course work in Hispanic studies.

Full course, Semester 1.

Full course, Semester 2.

Mr. D'Lugo.

Spanish 117. SPEAKING SPANISH: BEGINNING LEVEL. Not offered, 1976-77.

An intensive conversation course designed for students who have completed Spanish 11., or the equivalent. The course objective is to liberate the student from having to pause over verb conjugations, special phrasings, etc., and to help him gain a relaxed attitude toward a new language. Students will become more self-confident as they realize the extent to which they can express themselves. Course activities will be varied, ranging from spontaneous conversation based on topics of current interest to dramatizations of dialogs or skits.

Full course.

Staff.

Spanish 127. PRACTICE IN ORAL AND WRITTEN SPANISH.

An advanced intermediate course to help students develop fluency and accuracy in the spoken and written language.

Classes will stress composition and pronunciation, as well as conversation practice. Intended primarily for freshmen who have completed two to three years of high school Spanish.

Full course, Semester 1.

Mr. Barbera.

Spanish 131. READINGS IN MODERN SPANISH AMERICAN LITERATURE.

Third-year level. Variable content. Fall, 1976: El campo y la ciudad. Urban and rural life-styles in Spanish America as reflected in the literatures of three societies (Buenos Aires and the Argentine experience; Mexico and its cultural past and present; island and mainland experiences of Puerto Rican culture). Readings will include representative works of fiction and drama in the respective cultures. Conducted in Spanish. Prerequisite: Spanish 12., or equivalent skill in the language. Full course, Semester 1.

Spanish 132. INTRODUCTION TO SPANISH LITERATURE OF THE TWENTIETH CENTURY. Not offered, 1976-77.

Reading and discussion of selected works from the Generation of 1898 to the contemporary period (Unamuno, García Lorca, Cela, Benavente, Buero Vallejo, Sastre, Goytisolo). Emphasis on conflictual structures within dramatic and narrative works: individual vs. the group as seen particularly in the Civil War and its effects on subsequent literary and social development in Spain. Prerequisite: Spanish 131., or permission of the instructor.

Mr. D'Lugo.

Full course.

Spanish 133. LATIN AMERICAN THEMES.

A third-year course of readings and discussions intended to introduce the student to the diversity of Hispanic culture through a close consideration and analysis of a limited number of problems as reflected in selected readings from literature, history, cultural anthropology as well as current periodicals in Spanish. The course will focus on one or two of the following national cultures: Chile, Cuba, Mexico, Spain, Argentina. Topics normally covered include: parallel development of Anglo-American and Hispanic cultural institutions; changing identity of the family and the individual in twentieth century society; the emerging identities of women in these societies and a comparison with traditional Hispanic definitions of women's role. Readings and discussions in Spanish.

Full course, Semester 1.

Spanish 135. HISPANIC ETHOS AND CINEMA: THE FILMS OF LUIS BUÑUEL. Not offered, 1976-77.

Viewing, discussion, and analysis of the major films of Luis Buñuel in the context of the cinematic medium as well as in the broader tradition of a particular critique of Hispanic social values. The recurrent motifs of catholicism and the church, charity, violence, and sexual repression will be examined as cinematic form and substance. Readings will include film scripts, film criticism, and source novels. Conducted in Spanish. Prerequisite: Spanish 131., or permission of the instructor.

Attendance at 10 film showings during the semester (approximately one weekly) will be required of students taking the course for credit. All films will be subtitled in English. Full course.

Mr. D'Lugo.

Spanish 136. WOMEN'S ROLE IN SPANISH LITERATURE.

Selected works will be studied with a focus on the role of women in the literature of Spain throughout the centuries. Prerequisite: Spanish 12., or an equivalent skill.

Full course, Semester 1.

Mr. Barbera.

Spanish 137. ORAL AND WRITTEN SPANISH.

Third-year level. A rapid review of grammar and stylistics. Exercises in composition, pronunciation, and intonation. Intended to allow the student with one or more years of advanced college work in Spanish (or equivalent) the opportunity for refinement and mastery of both written and spoken Spanish. Emphasis will be placed upon control and accuracy of expression in writing through regular compositions and translation exercises, as well as work in phonetics and diction. Prerequisite: Spanish 131., and one course above that level. Full course, Semester 2. Mr. D'Lugo, Ms. Oyarzun.

Spanish 139. LITERATURE AND REVOLUTION IN SPANISH AMERICA. Not offered, 1976-77.

Full course.

Mr. D'Lugo.

Spanish 140. SPANISH DRAMATIC EXPRESSION/PLAY PRODUCTION.

Intended to provide the student who has completed Spanish 12., or equivalent, with an opportunity to develop and refine habits of gesticulation, rhythm, and intonation which characterize contemporary spoken Spanish. The course will include close work on two contemporary dramatic works which will give the student practical experience in the skills of interpersonal encounters in which control of oral expression is required. Although some consideration will be given to the texts as dramatic works, the principle of this course is a workshop in advanced oral Spanish. Prerequisites: Spanish 12., or equivalent skill in the language.

Full course, Semester 1.

Mr. D'Lugo.

Spanish 242. EARLY SPANISH LITERATURE FROM THE POEMA DE MÍO CID TO THE CELESTINA.

Not offered, 1976-77.

This course will emphasize the nature of epic poetry, the first manifestation of "realism" in the literature of the Middle Ages, and will culminate in the hybrid masterpiece, the *Celestina*, a combination of novel and drama, unique in the history of European literature. Conducted in Spanish. Prerequisite: grade of B- or higher in a third-year course. Offered in alternate years. Full course.

Mr. Barbera.

Spanish 243. CERVANTES.

Not offered, 1976-77.

This course will concentrate upon Don Quijote. The picaresque novel will be read for its influence upon Cervantes. The views of

important essayists will be studied in conjunction with the reading of the Quijote. Conducted in Spanish. Prerequisite: grade of B- or higher in a third-year course.

Full course.

Mr. Barbera.

Spanish 244. THE DRAMA OF THE SIGLO DE ORO.

Not offered, 1976-77.

Besides the major figures such as Lope de Vega, Tirso de Molina, Alarcón, and Calderón de la Barca, there will be some study of the origins of the drama in Spain. Conducted in Spanish. Prerequisite: grade of B- or higher in a third-year course. Offered in alternate years.

Full course.

Mr. Barbera.

Spanish 245. NARRATIVE LANDMARKS IN THE HISPANIC TRADITION.

Variable topic. The selection of works will reflect the contribution to both national and world literatures of major narrative works of Spain and Spanish America. Each work will be studied within the context of the literary and social ambience to help clarify the nexus between the work of art and its matrix, as well as the relationships of works of art to each other. Spring 1977 readings include: La Celestina, Lazarillo de Tormes, Don Quijote de la Mancha (Part 1), El burlador de Sevilla, La vida es sueño.

Full course, Semester 2.

Mr. Barbera.

Spanish 246. MAIN CURRENTS IN CONTEMPORARY SPANISH AMERICAN FICTION.

Variable topic: Fall, 1976: "Tradición y actualidad de la cuentística hispanoamericana". Close examination of exemplary shorter narratives in Spanish American fiction from the nineteenth century to the contemporary period. Emphasis upon the dynamic tension between continuity in the genre and innovative techniques of particular authors. Readings from the works of Darío, Quiroga, Lugones, Arlt, Borges, García Márquez, Rulfo, Cortázar, Elizondo, and Cabrera Infante. Prerequisite: Spanish 131., and one literature course above that level. Full course, Semester 1.

Spanish 106. SPECIAL TOPICS IN SPANISH.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

Spanish 206. SPECIAL TOPICS IN SPANISH.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

French

(See Department of Foreign Languages and Literatures.)



Geography

DEPARTMENT FACULTY

Saul B. Cohen, Ph.D., Professor of Geography, Director of the Graduate School of Geography, Adjunct Professor of Government and International Relations

Leonard Berry, Ph.D., Professor of Geography, Co-Directer, International Development Program, Dean of the Graduate School, Coordinator of Research

Martyn J. Bowden, Ph.D., Professor of Geography

Gerald J. Karaska, Ph.D., Professor of Geography, Editor of Economic Geography

Roger E. Kasperson, Ph.D., Professor of Geography and Government & International Relations

Robert W. Kates, Ph.D., Professor of Geography, University Professor, on leave Semester 2

Duane S. Knos, Ph.D., Professor of Geography

Anne Buttimer, Sr. Mary Annette, O.P., Ph.D., Associate Professor of Geography

William A. Koelsch, Ph.D., Associate Professor of History and

Geography, University Archivist Laurence A. Lewis, Ph.D., Associate Professor of Geography, on

leave academic year.

J. Richard Peet, Ph.D., Associate Professor of Geography Kang-tsung Chang, Ph.D., Assistant Professor of Geography and Cartography

Stephen L. Feldman, Ph.D., Assistant Professor of Geography Richard A. Howard, Ph.D., Assistant Professor of Geography and Adjunct Assistant Professor of Biology

Douglas L. Johnson, Ph.D., Assistant Professor of Geography, on leave Semester 1

Dennis W. Ducsik, Ph.D., Assistant Professor of Science,

Technology & Society, Adjunct in Geography Harry E. Schwarz, B.C.E., Visiting Professor of Environmental

Affairs. Adjunct in Geography

David B. Prior, Ph.D., Visiting Associate Professor of Geography

Phillip O'Keefe, Ph.D., Visiting Assistant Professor of Geography

Richard P. Palmieri, Ph.D., Visiting Assistant Professor of Geography

Geography

Richard A. Warrick, Ph.D., Visiting Assistant Professor of Geography

STAFF

Mary A. O'Malley, Administrative Assistant William J. McCall, M.L.S., Map Curator Ruth A. Rowles, B.A., Senior Cartographer, Manager Cartographic Laboratory

PROFESSORS EMERITI

Raymond E. Murphy, Ph.D., Professor of Economic Geography, Emeritus

Henry J. Warman, Ph.D., Professor of Geography, Emeritus

Each year the School of Geography has in residence or as off-campus affiliates a number of Research Affiliates. For 1976-77 these are: David Sharon, Gerhard Tschannerl, lan Burton, Ewa Novosielska, Dolores Garcia, Timothy O'Riordan, Solveig Martensson, Asher Schick.

When the Graduate School of Geography was organized in 1921, Clark became the second university in the United States to establish a separate graduate program in Geography. At the present time, advanced training is provided leading to the Master's and Doctor's degrees. In addition, the school offers an undergraduate major, and a seven- and five-year program, B.A./Ph.D. and B.A./M.A. degrees. Clark is a center for geographical training and research in the United States, and its

various offerings provide a maximum of individual attention through student-teacher dialogue.

DISTINCTIVE FEATURES AND SPECIALIZATION

The School of Geography is housed in modern quarters in the University's Academic Center. Graduate students and senior geography majors are assigned carrels in the Geography Workroom. The Workroom and other sections of the Geography Building contain specialized equipment and research facilities for the use of students and staff. The John K. Wright Reading Room contains the Graduate School of Geography's working reading collection. The core of this collection is the personal library of Dr. John K. Wright. The collection is continuously updated by the addition of new publications in the field of geography plus subscriptions to major geographic and scientific journals. A Curriculum Library is also located in this Reading Room. The Libbey Library of the Geography Workroom serves as a student lounge.

The Guy H. Burnham Map Library is a multi-faceted special library staffed by a professional librarian. It is one of five federal depositories for maps and charts. The collection consists of over 120,000 maps, charts, atlases, aerial photographs, and globes. Supportive materials either are on hand or can be obtained through inter-institution or inter-library cooperation. The library is designed to meet the geographic needs of the Clark community and the Central Massachusetts area.

Cross-disciplinary training, as evidenced by the six joint appointments held by geography faculty with other departments; the clustering of faculty research and teaching interests in several areas having to do with the man-environment system; and specialization in urban-economic, environmental management and behavior, international development, political, historical, cultural geography, and geomorphology currently characterize the school.

PUBLICATIONS

A professional magazine, *Economic Geography*, is edited by a faculty member. Started at Clark University in 1925, it is the only journal published in English that specializes in economic and urban geography. The magazine has a world-wide distribution with a total circulation of about 5,000.

The graduate students, through the years, have maintained the Clark University Geographical Society (CUGS). The annual publication, *The Monadnock* keeps School of Geography alumni in touch with each other and with news and scholarly activities in the school.

UNDERGRADUATE PROGRAM

The Undergraduate Geography Program covers a three-year period (sophomore-senior), during which 50-80 per cent of the course time is to be accounted for within the program. A minimum set of geography requirements is built into the major, and much of the students' work in cognate fields will be carried on through the advice of the adviser and in the context of individual needs and capacities. During the freshman year, a broad "Survey of Geography" and one or two "principles" courses are offered with attention given to the formation of small-group organization within the larger class framework. The program is designed to integrate the students' course program more fully and to provide greater scope and latitude for research/training opportunities.

A) The key points in this program are:

(1) An Introductory Tutorial for all majors sometime during the sophomore year. This is a half course offered over a full semester under the supervision of a faculty member, with small groups directed by advanced graduate students. The objective of the tutorial is to establish personal relationships between faculty, undergraduate, and graduate students that will be a framework of interaction to affect other course work.

- (2) A Capstone Seminar for geography seniors. This is also a half-course offered over a full semester. It is problemoriented and produces an individual or team research product. The seminar uses as its base a summary of the totality of each student's geography learning experience. The first part deals with problem-setting design and methodology; the second part with the research activity itself.
- (3) Fifth Module is used by the Geography Department as a period in which field and laboratory courses are emphasized. Field courses are seen as skill/tool technique opportunities which are of particular value to juniors.
 - B) Majors in geography are required to take the following:
- (1) Survey of Geography (011.) plus two introductory courses from the following: Physical Geography (014.), Economic Geography (015.), Cultural Geography (017.). Substitution of 100-level courses in these four areas may be approved by the department.
- (2) Skill courses (two of the following): Introduction to Statistical Geography (110.), Computer Programming (212.), second college year level foreign language, or Introduction to Cartography (191.).
- (3) A minimum of five elective semester courses in geography.
- (4) A minimum of four semester courses in a related field. Related fields include: biology, chemistry, computer science, economics, education, government, history, physics, psychology, sociology.
- (5) Tutorial in Geography (001.) (half course for sophomores); Capstone Seminar in Geography (002.) (half course for seniors).

Letter grades for required courses except Tutorial and Capston are mandatory.

For those taking a dual or inter-disciplinary major the following are required: Survey of Geography (011.); Tutorial in Geography (001.); one of the following introductory courses — Physical (014.), Economic (015.), Cultural (017.); two of the four "skills" courses; a minimum of three other elective geography semester courses that are clearly linked to the cognate field; Capstone Seminar (002.).

C) Since 1971-72, formal seven- and five-year programs for Clark undergraduate students have been offered, leading to the Ph.D. and M.A. degrees in geography. At the undergraduate level, applicants must major in geography and a dual or interdisciplinary field, and make application at the end of the junior year. The B.A./Ph.D. program may include one (the sixth) year off campus, in residence at another university or agency. Admissions are limited to a very small number of highly qualified students and in subfields of concentration that are approximate to Clark's range of offerings. For specific information, contact the Director of the School of Geography. Applications to these programs should be submitted to the Geography Office no later than May 15th.

THE GRADUATE SCHOOL OF GEOGRAPHY

Admission: Applicants without prior training in Geography are welcome, but depending on their concentrations, may be required to improve their knowledge of elements of geography, economic geography, cartography, or descriptive statistics. Courses taken to remedy any deficiencies will not count as part of the regular program. The Graduate Record Examination scores (Verbal and Quantitative) are required of all students with the exception of those in foreign countries. The GRE Advanced Placement Test in Geography is desirable, but not required.

Degree Objectives: The graduate program in geography at Clark has been derived from a synthesis of faculty-student discussions, documents, and experiences. The Ph.D. training program stands as the central thrust in the Graduate School of Geography at Clark. In the context of the graduate training program, it is assumed that students may wish to pursue two tracks: one, the traditional Ph.D. with its training and

experiential requirements in research and in teaching (assuming minimal steps for competence in the latter); the other, the Ph.D. with training related directly to the competence of individuals as college geography teachers, the thrust being in the combination of work relating to the teaching and learning of geography as a social science, and specialization in one major sub-field in geography. The School of Geography fosters student and faculty exchange with other institutions, including institutions outside the field of geography and with geography departments elsewhere. Clark has long encouraged ties with foreign geography students and faculty. Focus in recent years has also included links with developing institutions in the U.S. through training of prospective faculty and facilitating programs.

Specialized Programs in Sub-Fields: The curriculum is organized to focus on specialized programs in sub-fields of geography. Such sub-fields are developed around a series of sequentially-oriented courses which, in general, occupy from one-third to no more than one-half of the students' formal doctoral program. The sub-fields are organized in accordance with the interests, competencies, and breadth of the staff Programs in Environmental Management and Behavior, Political Geography, Urban Geography, Geomorphology, Historical Geography, Cultural Geography, Geography and its Teaching, are examples of concentrations. Minor field concentration is also required, permitting, as a side benefit, shifts in the major concentration or sub-field. Therefore, even those students who arrive with pre-conceived notions about the major concentration will have opportunities to switch to other fields. In general, subfields are organized around committees with three to five staff members. Responsibility for supervision of the students' course selection, dissertation, and other training experiences is with the sub-field adviser.

In the organization of the curriculum in this specialized structured manner, there is neither the intention nor the desire to exclude faculty and students who do not wish to operate within the framework of a formal sub-field. Students may wish to create their own personalized programs or fields of concentration outside of the formal sub-fields. The only limit to this lies in the general nature of the offerings and in the interests and competencies of staff. Where formal specialized programs do not exist, it becomes the responsibility of the major adviser to develop, together with the students, a program whose various prerequisites will follow the general form and intent of the Clark graduate geography program. Development and evaluation of specialized programs rests heavily on the activities of joint student-faculty committees. Passing of prerequisites (e.g., substantive course background, statistical methods, computer science, or cartography) is essentially the responsibility of the specialized concentration, as is the encouragement of crossdisciplinary training.

Orientation Program for Entering Graduate Students: All entering graduate students are required to take Geography 396a., Approaches to Geography — a series of presentations which will survey research efforts in specific subfields and then continue with a workshop concerned with approaches to learning, the development of a sense of problem, and scientific inquiry. As part of this course, a field camp will be held to provide field experience as a basis for identifying problems or for validating existing problems in a specified area. In addition to entering students, continuing students are invited to participate. At the end of the course those students who wish to continue may do so through some form of directed study on an individual or group basis.

Formal Course Requirements: Other than those courses considered prerequisite to the specialized or individually-tailored program, no formal course requirements are set. It is the full responsibility of a student's adviser to require that a student take courses in areas of deficiency. Such courses might be required on a formal basis, on an audit basis, or through organized readings.

Proficiency and Research Papers: Two formal papers are required. A proficiency paper, normally submitted during the

second semester of the first year, and a research paper in the field of specialization, normally submitted during the second year. Both papers are brief and in the style and form of scholarly articles.

The Proficiency Paper: All incoming students are expected to present the proficiency paper no later than between March 15th and April 15th of the academic year. The objectives of this paper are two-fold: (1) to evaluate a student's ability to think and write logically and to articulate a research problem; and (2) to identify individual strengths and weaknesses as a guide to future course work and needs. The paper should normally not exceed 30 pages (unless the M.A. thesis is presented), excluding specialized bibliographical references, and should represent a finished piece of work in style, sense of research problem, and findings. The style should follow Turabian in terms of what is expected of a scholarly article. The paper may be generated within the context of the Orientation Program. It is expected that this paper will be read by three individuals, a major reader drawn from the research area, and two members of the faculty who play the role of generalist-readers.

The Research Paper: As a prelude to the development of a doctoral dissertation proposal, each student is expected to submit an advanced research paper (15-30 pages in length) in his/her field of specialization approved by the major adviser. This paper is to be submitted as demonstration of the ability to research a problem in depth and to write it in publishable form (cf. Turabian). Generally the research paper is written in connection with a course or seminar taken in a specialized field and is submitted during the second year. Distinguished from the proficiency paper, which is likely to show only preliminary inquiry into a problem area, the research paper is expected to evince mastery of the topic. The adviser is responsible for approving the paper and submitting it to the Geography Office.

The research paper is a prerequisite for the pre-doctoral M.A. Should a student not desire to apply for this M.A., he or she need not submit the research paper. However, it is assumed and strongly urged that all students apply for the pre-doctoral M.A. and submit a paper.

Residence Requirement: A three-year residence beyond the B.A. degree is required for the Ph.D. program. One of the years in residence must be the year in which the dissertation proposal is submitted and approved, and, as part of the three-year residence, the student must remain in residence for one semester (or one summer under direct supervision) following approval of the outline to work on the dissertation. After approval of the dissertation proposal, if the dissertation is not completed by the end of four years, the proposal must be submitted for reapproval. One prerequisite for such reapproval is provision for one academic semester's residence during the next year to work on the dissertation. (Twelve weeks during the summer is considered the equivalent of an academic year semester for this purpose, with the proviso that a faculty member be in residence at Clark during the summer and express a willingness to supervise.) Upon completion of all formal requirements, save the completion of the dissertation, the student is expected to file for candidacy with the Graduate School, unless specific permission not to file is granted by the School of Geography. Students entering with an M.A. in a field other than geography will be expected to take essentially the three-year residence program. Students entering with an M.A. in geography from another institution may expect to complete their residence in five semesters or two and one-half years.

Teaching and Research Prerequisite: Some teaching and research experience at Clark is prerequisite to the doctor's degree and the terminal M.A. degree. Every effort is made to organize various forms of internships to provide on- and off-campus training activities, at the teaching and research levels, generally at the end of the second year of residence.

DOCTOR OF PHILOSOPHY

A) Language and/or Alternate Requirement
 Options to examination in a traditional foreign language are

available. These include: (1) computer science, (2) statistical methods, and (3) cartography; in addition, other options can be required or made available by individual concentrations with the approval of the faculty. The requirement varies with the concentration.

B) The Ph.D. Examination

All Ph.D. candidates must prepare themselves for examination in three fields. The major field examination consists of a 90-minute oral examination. The student may opt for either a 45-minute oral or a three-hour written examination in each of the two minor fields. Selection of fields should be made in consultation with the major adviser and the other committee members at least two months in advance of the examination dates, and is subject to departmental approval. In selecting the three fields, breadth in an interrelated set of sub-fields, depth in connection with the proposed dissertation topic, or competencies and availability of staff are considerations.

Under normal circumstances, it is expected that the language requirement (or its alternatives) will have been successfully met prior to the student's taking the Ph.D. examination. Approval of the dissertation proposal may precede the Ph.D. examination. Doctoral examinations are not normally conducted between May 1 and September 15, and should be requested 60 days before the desired date.

C) Committee System for Ph.D. Dissertation

The dissertation committee is composed of five faculty members, with responsibilities for: (a) approval of the outline; (b) reading and reviewing of the dissertation (two readers and three reviewers); and (c) participating in the dissertation defense. The committee will include two external members (second reader and/or reviewers). External members may be drawn from the field of Geography outside the University or from other departments within the University. When the dissertation proposal has been approved by the committee in its entirety or majority, a letter to this effect shall be submitted to the Geography Office by the first reader together with 15 copies of the proposal. The director of the school will then circulate the proposal to each member of the faculty for comments, and final approval will be made at the end of two weeks by the director in light of these comments.

When the draft of the dissertation has been approved by the committee, three copies of the draft with a letter to the effect of the approval signed by the first reader, will be submitted to the Geography Office. The director will then inform the faculty that these copies are available for examination for a period of two weeks. Any time after the end of the two-week period, the defense may be scheduled. In addition to the committee, any member of the Clark faculty (geography or other departments) is invited to participate in the defense. A week before the defense date, notices will be given of the defense to the Dean of the Graduate School. If the defense is adequate, then the dissertation in final form is delivered, with two copies to the departmental office and the ribbon copy to the Registrar.

MASTER OF ARTS

While the thrust of the Clark Geography Program is at the doctoral level, two types of M.A. degrees will be made available: A) *The Pre-Doctoral M.A.*

Students working toward the Ph.D. will be granted, upon request, an M.A. degree at the end of the required residence period, having completed: (a) the dissertation proposal; (b) required course work; (c) the Ph.D. preliminary examination; and (d) a formal research paper approved by the concentration adviser. (See "The Research Paper" for details.)

B) The Non-Doctoral M.A.

Normally no later than at the end of the first semester of the second year of residence, after a review process that includes a proficiency paper in the concentration at the end of the first year, students may opt or may be advised to shift to a terminal M.A. degree, under which circumstances they will be expected to drop one or two courses in order to write a thesis. This thesis is

envisaged as a research paper or short article (15-30 pages), demonstrating an ability to define a problem as well as serving as evidence of research competence. The thesis would be presented in a manner as to meet the form and standards of a professionally acceptable article, and will be defended at the Master's Oral Examination.

After approval by a committee consisting of the major adviser and two other faculty of the student's choosing, three copies of the final draft with a letter by the major adviser noting committee approval will be delivered to the Geography Office. The director will then announce to the faculty that the draft is available for examination. Any time after the end of ten days, the defense may be scheduled. In addition to the committee, any member of the Clark faculty (geography or other departments) may be invited to participate in the defense. A week before the defense date, notice will be given of the defense to the Dean of the Graduate School.

Following defense of the thesis, two final copies are delivered to the departmental office and the ribbon copy to the Registrar. Thesis defense should be conducted six weeks prior to commencement.

COURSES

Courses are numbered under three headings: #1 primarily for undergraduates: #2 for advanced undergraduates: #3 primarily for graduates. Courses beginning with #0 are introductory and, along with #1 courses which have no prerequisites, are open to freshmen. These levels are not restrictive to properly qualified students.

001. TUTORIAL IN GEOGRAPHY.

A basic introduction for majors to geography as a field and to bibliographic research methodologies. The course examines geographic journals as an introduction to geography and its practice; explores the Goddard Library's potential as a research center; investigates alternative research facilities in the areas that are of use to geographers, and stresses the preparation and writing of research reports as a basis for autonomous learning in a geographic setting.

Half course, Semesters 1, 2. Mr. Johnson, Staff.

002. CAPSTONE SEMINAR IN GEOGRAPHY.

This seminar is for geography seniors and is problem-oriented to produce an individual or team research product. It uses as its base a summary of the totality of each student's geography learning experience.

Half course, Semesters 1, 2,

Staff.

011. SURVEY OF GEOGRAPHY.

Survey provides a general conceptual framework for understanding modern geography. Emphasis is placed on the interrelation of various approaches to geographic research as presently conducted in the Graduate School of Geography. Urban, physical (climatology, soils, biogeography, and land form studies), economic, political, social, cultural, historical, and regional themes will be developed with approximatley onethird of the lectures being given by various staff members. The course is designed primarily for freshmen and sophomores and is a required course for geography majors. Full course, Semester 1. Mr. Bowden.

013. FIELD STUDIES OF ENVIRONMENTAL ISSUES.

Explores environmental concerns in the Worcester region through field experience, problem identification, and issue discussion. Freshmen and sophomores will work with graduate students on environmental management problems in field studies and small group investigative projects. Needed methods and techniques will be developed around three key themes: how do we find out, how do we know, and how do we communicate research findings.

Full course, Semester 1.

Mr. Kates.

014. INTRODUCTION TO PHYSICAL GEOGRAPHY.

A basic inquiry into components of geomorphology and climatology. The role of man as a critical agent in physical geography is included by looking at inadvertent climatic modification and alteration of the earth's surface by man's activities. Labs and field trip. Full course, Semester 2. Mr. Prior.

015. INTRODUCTION TO ECONOMIC GEOGRAPHY.

An introduction to economic geography including an outline and critique of theories of location and economic development. Full course, Semester 1. Mr. Karaska.

017. INTRODUCTION TO CULTURAL GEOGRAPHY.

The course is an ecological and historical approach to the study of cultures and culture change in a spatial context. A series of broad themes and problems are illustrated by case studies. Among the major themes to be considered are: adaption to environment, culture in prehistory, migration and the creation of culture areas, the world views of primitive, traditional, and industrial cultures, culture landscape, and the cultural geography of the United States. A schedule of three lectures and one discussion per week are integral parts of the course. Full course, Semester 2. Mr. Bowden.

098. READINGS IN GEOGRAPHY.

Directed readings for undergraduates in an area of their choice. Consent of instructor required. Variable credit, Semesters 1, 2. Staff.

099. RESEARCH IN GEOGRAPHY.

Special research projects for undergraduates in an area of their choice. Consent of instructor required. Variable credit, Semesters 1, 2. Staff.

110. INTRODUCTION TO STATISTICAL GEOGRAPHY.

Principles of inferential statistics will be introduced. These will include point estimation, internal estimation, sampling distributions, hypothesis testing and correlation techniques. Full course, Semester 1. Mr. Howard.

114. DYNAMICS OF THE EARTH SURFACE.

An examination of the earth's physical landscapes including the processes that shape the landforms as well as the evolution of landscapes. This inquiry will investigate the roles of water, ice. wind, and human activity on the erosional and depositional processes.

Full course, Semester 1.

Mr. Prior.

115. CULTURAL ECOLOGICAL SYSTEMS.

Investigates cultural adaptations to a variety of ecological settings. Selected case studies are used to illustrate systematic aspects of lifestyle adjustments in a number of the earth's major environmental regions.

Full course, Semester 1.

Mr. Palmieri.

124. GEOGRAPHY OF DESERTIFICATION: MAN, CLIMATE & CHANGE IN ARID WORLD.

Are arid regions ecologically fragile, collapsing easily under human and climatic pressures? Are deserts expanding, destroying all in their paths? Can arid areas continue to support increasing human populations? Will future Sahelian droughts create havoc or can the problem be controlled? These and other issues which form the focus of the 1977 World Conference on Desertification will be discussed. Viewed in a historical perspective, the demography, social and livelihood systems, behavioral characteristics, and physical constraints of

desertification-prone areas will be analyzed and their future development potential assessed.

Full course, Semester 2.

Mr. Johnson.

125. DEVELOPMENT PROBLEMS.

The several dimensions of development and the reasons why the gap between developed and underdeveloped countries is widening will be explored. Among the disciplines drawn upon will be: geography, government, economics, and education. Problems analyzed will include: urban growth, land reform, unemployment, and government planning. Tanzania, China, Brazil, and other countries will be used as cases. See also History 288.

Full course, Semester 1.

Mr. Ford, Mr. Berry, Ms. Enloe.

126. GEOGRAPHY OF NATURAL HAZARDS.

How is it that people survive and even prosper in areas of high recurrent natural hazards, e.g. floods, droughts, tropical cyclones, earthquakes and volcanoes?

Full course, Semester 1.

Mr. Warrick.

130. REGIONAL POLITICAL GEOGRAPHY.

Concentrates on the impress of politics upon landscape in unique regional settings. Problem-oriented, within the context of world regional survey. Prerequisite: Geography 011., or Government 014.

Full course, Semester 2.

Mr. Cohen.

150. AQUARIUS: PLANNING FOR **URBAN WATER RESOURCES.**

Help wanted: Water resource planners for City of Aquarius to prepare 50-year plan for water supply, water quality, flood control, and recreation. Includes opportunity to use advanced computer simulation. Group collaboration required. Full course, Semester 2.

151. SPACE, LANDSCAPE & ENVIRONMENT IN AMERICA.

Changing conceptions of space, landscape, and environment in 200 years of American history. Emphasis on the contrast between high cultural and popular cultural views and upon myth

Full course, Semester 2.

Mr. Bowden.

152. FORMATIVE PLANNING IN GEOGRAPHY.

An analysis of formative planning as a process at the local, state, and national levels.

Full course, Semester 2.

Mr. O'Keefe.

157. THEORY OF RESOURCES.

Elementary theory of resources geography and economics. Problems of resource scarcity and economic growth, common property resources, location theory, and resource utilization. Permission required for freshmen.

Full course, Semester 1.

Mr. Warrick.

159. GEOGRAPHY OF RECREATION.

This course deals with the changing meanings and uses of leisure and recreation, problems in the evaluation of outdoor recreation as a resource, issues in the management of outdoor recreational facilities including both urban and wilderness recreation, and case studies in applied recreational research. The aim is to introduce students to the variety of philosophical concepts and methodological techniques associated with modern research in recreation.

Full course, Semester 2.

Mr. Warrick.

161. GEOGRAPHY OF AMERICAN INEQUALITY AND POVERTY.

Viewpoints on poverty — the culture of poverty versus Marxist

interpretations. The geographic (environmental) theory of poverty, poverty in rural areas, rural to urban migration, ghetto formation, poverty in cities, antipoverty policy and planning will be discussed.

Full course, Semester 1.

Mr. Peet.

171. SOCIAL GEOGRAPHY.

Life styles are examined in terms of man's relationship to his milieu in various contexts. Landscapes are seen as expressions of an on-going dialogue between man and nature, and students are encouraged to explore their own personal experiences of their own milieux. Prerequisite: Geography 011. Full course, Semester 1. Ms. Buttimer.

188. IDEOLOGY AND ENVIRONMENT: SHAPING THE LAND OF ISRAEL.

A problem-oriented course emphasizing ideology and environment in the rural and urban settlement process in both an historic and contemporary setting. Particular emphasis upon changing patterns and planning for the year 2,000. Full course, Semester 1. (COPACE) Mr. Cohen.

191. INTRODUCTION TO MAP MAKING AND CARTOGRAPHY.

An introduction to cartography and the mapping process with emphasis on problems of data collection, scale, compilation, and selection of cartographic method. Fundamental aspects and use of major types of map projections and examination of transformations to non-geographic spaces (cartograms). Full course, Semester 1. Mr. Chang.

193. CARTOGRAPHIC GENERALIZATION AND SYMBOLIZATION.

Two major topics in cartography will be covered in this course: (1) principles of generalization and their application to generalization of base map, point data, aerial data, and landform representation; and (2) study of alternative solutions to symbolization of qualitative and quantitative data. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Chang.

200. ENVIRONMENTAL EDUCATION WORKSHOP.

This course will focus on the development of effective teaching strategies in environmental education for implementation at both the elementary and secondary levels. A major concern will involve the development of teaching models from a number of perspectives (ecological, geographical, historical, legal). Background in curriculum development or internship helpful. Full course, Semester 1. Mr. Knos. Staff.

203. STUDENT TEACHING.

An introduction to the construction and development of learningteaching situations in geography. Required of all students in the geography teaching cluster. Prerequisite: permission of instructor. (See also Education 203.) Two-course value.

Semester 2.

Mr. Knos, Staff.

204. CURRICULUM DEVELOPMENT AND ANALYSIS.

A consideration of the assumptions about learning, teaching, and knowledge which are incorporated in the full range of curriculum materials presently available for teaching geography and history. Each student will prepare a curriculum plan suitable to individual educational objectives for teaching history or geography. The course is required of all students in the geography teaching cluster. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Knos, Staff.

205.1 METHODS OF TEACHING AND RESEARCH IN EDUCATIONAL SYSTEMS.

An analysis of group and personal experiences of four components — spatial, social, political, and psychological — which function in classrooms and which hinder or enhance learning. This course provides substantive input for the curriculum development course and is required of all students in the geography teaching cluster. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Knos. Staff.

205.2 EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Normally this course is taken after the Geog. 203., 204., 205.1. series.

Full course, Semester 2.

Mr. Knos, Staff.

206. AUTOBIOGRAPHY WORKSHOP.

A consideration of how students have learned in their own lives as a prerequisite to helping others to learn. The course seeks to engender an appreciation of both uniqueness and generalization in the process of teaching any social science discipline.

Half course, Semester 1.

Mr. Knos, Staff.

209. SIMULATION AS A LEARNING DEVICE.

Designed to provide experience in the development of simulations to illustrate a variety of geographic concepts. Concepts will be defined; illustrations in the real world will be formulated; and simulations of these situations will be developed.

Full course, Semester 2.

Mr. Knos.

212. COMPUTER PROGRAMMING.

Fundamentals of FORTRAN IV are presented. Designed for students with no mathematics beyond high school. Emphasis is on numeric applications.

Full course, Semester 2.

Mr. Howard.

213. HISTORICAL GEOMORPHOLOGY & ARID LAND FORMS.

Advanced seminar will discuss two main themes: (1) The development of historical geomorphology through the nineteenth and twentieth centuries. Special attention will be given to the historical development of current important research trends; (2) An analysis of current ideas on landscapes of arid areas with special relation to the arid southwest section of the United States and the Sahara.

Full course, Semester 2.

Mr. Berry, Staff.

214. GEOMORPHOLOGY AND ENVIRONMENTAL MANAGEMENT.

The interaction between human activity and geomorphic processes. Examination of the nature and appraisal of resources from a physical geographic perspective including minerals, soils and scenery.

Full course, Semester 2.

Mr. Prior.

218. PEDOLOGY: THE EARTH'S SOIL SYSTEM.

The concepts and principles of modern soil geography will be discussed. The present interpretation of soil processes as well as contemporary soil classifications will be developed. Prerequisite: Geography 014.

Prerequisite: Geography C

Full course, Semester 1.

Mr. Prior.

221. APPLIED SURFACE WATER HYDROLOGY.

The course will focus on practical applications of hydrology for water resources management. Topics such as flood plane analyses, frequency analyses, and reservoir operation will be covered in detail following a quick review of the field.

Prerequisite: Geography 014. or permission of instructor.

Full course, Semester 2.

Mr. Schwarz.

222. SEMINAR IN THE DYNAMICS OF CLIMATE AND SOCIETY.

A research seminar modeling the long-term interaction between climate and human activity. The simulation will employ system dynamics methods on the five million year history of the Tigris-Euphrates valley. For advanced students with an interest in cultural ecology and/or environmental modeling. Prerequisite: permission of instructor. (See also Science, Technology and Society 222.)

Full course, Semester 1.

Mr. Gould, Mr. Johnson, Mr. Kates, Mr. Steinitz.

229. PROSEMINAR: VICTORIAN BOSTON (HISTORICAL GEOGRAPHY).

Physical, architectural, economic, and ethnic dimensions of an expanding Victorian city. May be taken consecutively with and independently of History 229. (See also History 229.)
Half course, first half, Semester 1. Mr. Koelsch.

230. POLITICAL GEOGRAPHY AND ITS SPATIAL CONSEQUENCES.

Theory and methodology in political geography. Political processes and landscape interaction, at varying levels of the political hierarchy (national, urban, international). Attention to such topics as equilibrium, systems, decision-making, political action space. Open to juniors and seniors. Prerequisite: Geography 011. or Government 014.

Full course, Semester 1.

Mr. Cohen.

231. SEMINAR: POLITICS & THE ENVIRONMENT.

A state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or for advanced study. Topics include the concept of the public interest, public attitudes to the environment, regulatory agencies, decision-making theory, the role of Congress etc. A major seminar presentation and substantive research paper will be required. Prerequisite: permission of instructor. (See also Environmental Affairs 231.)

Full course, Semester 2.

Mr. Kasperson.

232. URBAN POLITICAL GEOGRAPHY.

An analysis of contemporary research, with particular attention to theoretical and methodological issues. Topics will include public service delivery, community control and decentralization, urban electoral geography, locational conflict, districting, urban participation. A substantial seminar paper will be required. Prerequisite: permission of instructor. Limited to 20 students. Full course, Semester 1.

235. COASTAL ZONE MANAGEMENT SEMINAR.

Introduction to the problem of achieving beneficial use and protection of the land water resources comprising the coastal environment, with emphasis on the water's edge. Discussion of a broad range of topics relevant to the land-sea interface, including physical and ecological processes, the scope and extent of human activities, and incidence of adverse effects on ecological, economic, and amenity values. The legal aspects of land use regulation as applied to coastal areas will be explored, together with recent developments in state and federal legislation and administrative programs. (See also Science, Technology and Society 235.)

Full course, Semester 1.

Mr. Ducsik, Invited Guests.

242. PRINCIPLES OF BIOGEOGRAPHY.

The principles of biogeography are introduced. These include the study of the spatial distribution of plants and animals on a global scale. Man's impact on the distribution of vegetation is also considered.

Full course, Semester 1.

Mr. Howard.

243. SEMINAR IN BIOGEOGRAPHY.

The purpose of the seminar is to define the description of biogeography in terms of current philosophy and research in the field. Readings and short papers will be assigned.

Full course, Semester 2. Mr. Howard.

245. HISTORICAL GEOGRAPHY OF THE UNITED STATES. Not offered, 1976-77.

Primarily a study of economic and cultural patterns along the eastern seaboard from the earliest settlement to about 1914, with special emphasis on nineteenth century developments. Lectures will include economic phenomena, theoretical approaches, cultural phenomena, morphological and perceptual approaches.

Full course.

Mr. Koelsch, Mr. Peet.

247. INTERMEDIATE STATISTICAL TECHNIQUES.

A study of statistical methods and spatial statistics in geography. Topics will include estimation, hypothesis testing, simple and multiple regression, and correlation techniques. Canned computer programs will be used in case studies whenever possible. Prerequisite: introductory statistics. Full course, Semester 2. Staff.

248. MODEL BUILDING TECHNIQUES.

The elements of deterministic and stochastic simulation techniques are introduced. In addition, linear and dynamic programming are introduced. A term project is required. Full course, Semester 2. Mr. Howard.

253. HISTORICAL GEOGRAPHY OF NEW ENGLAND.

A lecture, seminar, and field course concerned with specific research problems in the historical geography of New England, including but not limited to (1) settlement patterns and the rural landscape; and (2) the structure of New England's ports as major problems. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Bowden.

256. COMPARATIVE SPATIAL SYSTEMS ANALYSIS.

This is a seminar covering partial and full equilibrium location models under different modes of production. Among the systems to be explored are perfect competition, imperfect competition under monopoly capitalism, state socialism, decentralized socialism, and anarchism. Theoretical models and possible empirical counterparts will be discussed.

Full course, Semester 1.

Mr. Feldman, Mr. Peet.

257. SPATIAL ASPECTS OF RESOURCE UTILIZATION.

Advanced theory of resources geography and economics. Includes cost-benefit analysis and environmental impact statements, partial and general equilibrium models of pollution control.

Full course, Semester 2.

Mr. Warrick.

258. THE HUMAN GEOGRAPHY OF ANIMALS AND PLANTS.

Ecological and cultural relationships among plants, animals, and man are reviewed; and special attention is given to wild plant and animal resources, the process of domestication, human adaptation to and modification of local environments, collecting activities, and agricultural and pastoral economies. Ecological, historical, and comparative approaches will be employed on both global and regional scales among both traditional and modern societies.

Full course, Semester 1.

Mr. Palmieri.

261. URBAN ECONOMIC GEOGRAPHY.

A systematic study of external and internal spatial relationships of cities and city systems. Urbanization viewed as a process in spatial organization involving mutual interrelations among decision units.

Full course, Semester 2.

Mr. Karaska.

264. CULTURAL ECOLOGY OF PASTORAL NOMADISM.

Comparative cross-cultural analysis of a number of pastoral nomadic resource use systems forms the focus of the course. Traditional nomadic adaptations to high altitude, warm desert, cold desert, and mid-latitude savanna grassland environments are examined. Alternative development strategies for modernization and social change within these systems will also be discussed. Case studies and the analysis of individual development projects, where appropriate, will be utilized. Prerequisite: permission of instructor.

Full course, Semesters 1, 2. Mr. Johnson, Mr. Palmieri.

267. SEMINAR: AMERICAN GEOGRAPHIC THOUGHT, 1789-1939.

Development of early geographic ideas and institutions, both scientific and popular; emergence of professional geography of the late nineteenth and early twentieth centuries; student papers on selected major figures, themes and institutions in the era from Morse to Hartshorne.

Full course, Semester 2.

Mr. Koelsch.

268. PHILOSOPHY OF GEOGRAPHY.

Critical examination of some major themes and schools of geographic thought. Prerequisite: course background in geography.

Full course, Semester 1.

Ms. Buttimer.

270. TIME & SPACE IN THE CITY.

An attempt is made to examine selected themes and research models concerning the experience of people in urban milieux. Prerequisite: Geography 011. and 261.

Full course, Semester 2. Ms. Buttimer.

273. HUMAN EXPERIENCE OF SPACE.

Exploring the notion of *Lebenswelt* (life world) as a meeting ground between geography and phenomenology.

Full course, Semester 2.

Ms. Buttimer.

275. CITIZEN PARTICIPATION. Not offered, 1976-77.

The purposes of this course will be: (1) to analyze major theories as to the causes and forms of participation in the polities; (2) to examine our understanding of participation in the context of alternative models (e.g. pluralist welfare state, elitist power structure, technological state) of the polity and; (3) to review contemporary citizen participation programs implemented by various governmental agencies. Limited to 20. (See also Government 275.)

Full course, Semester 2.

Mr. Kasperson.

277. MARXIST RESOURCES THEORY.

A Marxist approach to the allocation and management of economic resources with particular attention to the African setting.

Full course, Semester 2.

Mr. O'Keefe.

290. REMOTE SENSING OF THE ENVIRONMENT.

Course will concentrate on the use of remotely sensing instrumentation as a tool for the geographer. Students should develop a working understanding of the electro-magnetic spectrum as a guide upon which the geographer may choose a sensor or data for geographic investigation and as a basis for communication with others in the field. Hands-on experience with conventional aerial photo interpretation and Earth Resources Observation Systems data will be emphasized. Limited to 20 students.

Full course, Semester 2.

Mr. McCall.

291. BASIC MAP DESIGN.

The course is designed to study the major elements of map

design: quantitative map symbols, map structure, the figureground relationship, lettering, and the use of color. Prerequisite: introductory cartography.

Full course, Semester 1.

Mr. Chang.

292. CARTOGRAPHIC TECHNIQUES.

Positive and negative artwork and basic photographic methods for map presentation.

Full course, Semester 2.

Mr. Chang, Staff.

295. WORKSHOP IN MAP DESIGN AND PRODUCTION.

Selected problems involving (1) computer mapping, or (2) development and analysis of effectiveness of alternative solutions to mapping problems.

Full course, Semester 1.

Mr. Chang.

297. SEMINAR IN CARTOGRAPHY.

The seminar will focus on the development of concepts and models in thematic cartography and the role of maps in geographic research. Prerequisite: permission of instructor. Full course, Semester 2.

Mr. Chang.

300. READINGS IN GEOGRAPHY.

Directed readings for graduate students in an area of their choice. Prerequisite: permission of instructor. Variable credit.

Semesters 1, 2.

Staff.

301. RESEARCH IN GEOGRAPHY.

Research projects for graduate students leading, usually, to the dissertation proposal. Prerequisite: permission of instructor. Variable credit.

Semesters 1, 2,

Staff.

307. SEMINAR IN DISASTER PREVENTION IN DEVELOPING COUNTRIES.

A critical examination of both the possibility and experience for pre-disaster planning and prevention activity to reduce economic and social costs of floods, droughts, tropical cyclones, and earthquakes. (Cross listed with International Development and Social Change.)

Full course, Semester 2.

Mr. O'Keefe.

317. SEMINAR IN PHYSICAL GEOGRAPHY.

A research seminar dealing with contemporary research with hill slope processes. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Prior.

330. SEMINAR IN POLITICAL GEOGRAPHY.

A research topic will be handled by one or more teams with research concentration on theory formulation and testing. Responsibility for supplementary undergraduate tutorial sessions in connection with the sessions which are organized around the background and interests of seminar participants is included.

Full course, Semester 2.

Mr. Cohen.

333. TEACHING OF ENVIRONMENTAL MANAGEMENT.

A parallel course to Geography 013. to enable the staff to evaluate its educational experience.

Full course, Semester 1.

Mr. Kates.

347. SEMINAR IN SYSTEMS ANALYSIS.

Designed to develop a closer familiarity with complex models. Students working as a group will either develop or adapt a complex system and test the output on the computer. Prerequisite: Geography 248. or permission of instructor. Full course, Semester 1. Mr. Howard, Mr. Schwarz.

360. SEMINAR IN ECONOMIC GEOGRAPHY.

Full course, Semester 2.

Mr. Warrick.

361. SEMINAR IN URBAN ECONOMIC GEOGRAPHY.

Discussion, study, and research on individual urban problems. Full course, Semester 2. Mr. Karaska.

364. SEMINAR ON CURRICULUM DEVELOPMENT IN RECREATION GEOGRAPHY.

The purpose of the seminar is development of curriculum with supporting materials. It will be oriented toward college undergraduates and will stress learning in a problem context. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Knos.

365. SEMINAR IN ECONOMIC GEOGRAPHY.

Alternative approaches to location theory will be explored. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Peet.

368. ADVANCED TOPICS IN PHILOSOPHY OF GEOGRAPHY.

A series of discussions on selected "great books" which will provide a focus for clarifying some philosophical and methodological issues in geography.

Full course, Semester 2.

Ms. Buttimer.

396. APPROACHES TO GEOGRAPHY.

Paradigms, themes, and models in geographic thought, offered as part of the orientation program for entering graduate students. Includes field experience as a basis for identifying and validating existing problems.

Full course, Semester 1.

Mr. Knos, Mr. Cohen.

COURSES DIRECTLY RELATED TO GEOGRAPHY OFFERINGS

For descriptions and details, please refer to course listings within the departments.

Economics 228. ECONOMICS AND DEVELOPMENT.

Full course, Semester 1.

Mr. Hsu.

Education 200. ENVIRONMENTAL EDUCATION WORKSHOP.

Full course, Semester 1.

Mr. Knos, Mr. Halverson.

Education 203. INTERNSHIP: TEACHING GEOGRAPHY.

Two course value.

Semester 2.

Mr. Knos.

Education 204. CURRICULUM DEVELOPMENT AND ANALYSIS.

Full course, Semester 1.

Mr. Knos, Staff.

Education 205.1. METHODS OF TEACHING AND RESEARCH IN EDUCATIONAL SYSTEMS.

Full course, Semester 1.

Mr. Knos, Staff.

Education 205.2. EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Full course, Semester 2.

Mr. Knos, Staff.

Education 206. AUTOBIOGRAPHY WORKSHOP.

Half course, Semester 1.

Mr. Knos, Staff.

Education 217. INTERNSHIP TEACHING.

Half course, Semesters 1, 2.

Mr. Knos.

Environmental Affairs 201. APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS.

Half course, first half, Semester 1.

Mr. Schwarz.

Environmental Affairs 202. THE BIOSPHERE.

Half course, second half, Semester 1.

Mr. Reynolds.

Environmental Affairs 203. MAN'S PERCEPTION OF HIS ENVIRONMENT.

Half course, first half, Semester 2.

Staff

Environmental Affairs 204. ENVIRONMENTAL PLANS AND PROGRAMS.

Half course, second half, Semester 2.

Mr. Schwarz.

Environmental Affairs 210. ENVIRONMENTAL PROTECTION.

Full course, Semester 2.

Staff.

Environmental Affairs 231. SEMINAR: POLITICS & THE ENVIRONMENT.

Full course, Semester 1.

Mr. Kasperson.

Environmental Affairs 250. PRACTICAL PROBLEMS IN ENVIRONMENTAL AFFAIRS.

Two course value, Modular Term.

Staff.

Geology 11. INTRODUCTION TO PHYSICAL GEOLOGY.

Full course, Semester 1.

Ms. Rehmer.

Government 103. INTRODUCTION TO POLITICAL INVESTIGATION.

Full course, Semesters 1, 2.

Staff.

Government 211. THEORIES OF PEACEMAKING IN INTERNATIONAL RELATIONS.

Full course, Semester 1.

Mr. Marwah.

Government 215.1. PROBLEMS IN DEVELOPMENT POLICY: FOOD.

Full course, second half, Semester 1.

Ms. Schulz.

Government 226. POLITICS OF MIDDLE EAST.

Full course, Semester 2.

Ms. Schulz.

Government 228.1. SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: REPRESENTATION.

Full course, Semester 2.

Ms. Schulz.

Government 228.3. SEMINAR: PROBLEMS IN COMPARATIVE POLITICS: ETHNIC CONFLICT.

Full course, Semester 1.

Ms. Enloe.

Government 235. COMPARATIVE BUREAUCRATIC POLITICS.

Full course, first half, Semester 1.

Ms. Enloe.

Government 236. POLITICS OF SOUTHEAST ASIA.

Full course, Semester 2.

Ms. Enloe.

Government 278. SEMINAR ON NUCLEAR ENERGY.

Full course, Semester 2. Mr. Kasperson, Mr. Hohenemser.

History 226. AMERICAN THOUGHT & CULTURE: 1740-1865.

Full course, Semester 1.

Mr. Koelsch.

History 229. PROSEMINAR: VICTORIAN BOSTON.

Full course, Semester 1.

Mr. Koelsch, Mr. Story.

I.D. 125. DEVELOPMENT PROBLEMS.

Full course, Semester 1.

Mr. Berry, Mr. Ford.

I.D. 206. AUTOBIOGRAPHY WORKSHOP.

Half course, Semester 1.

Mr. Knos.

I.D. 210. ECONOMIC PLANNING.

Full course, Semester 1.

Ms. Seidman.

STS 101. INTRODUCTORY CASE STUDIES.

Full course, Semesters 1, 2.

Mr. Hohenemser, Mr. Schwarz, Mr. Ducsik, Mr. Jones.

STS 201. ENERGY AND SOCIETY.

Full course, Semester 2.

Mr. Ducsik.

Sociology 247. URBAN SOCIOLOGY.

Full course, Semester 1.

Mr. Ross.

Geology

DEPARMENT FACULTY

Rudolph F. Nunnemacher, Ph.D., Professor of Zoology *Laurence A. Lewis, Ph.D., Associate Professor of Geography Judith Rehmer, M.A., Assistant Professor of Geology

A program in geology with a full-time geologist and the assistance of other faculty members has been reinstituted in the college for the academic year 1976-77. Course offerings in geomorphology are listed under physical geography.

While a major in geology is not currently available, students can plan a "self-designed major" which accomplishes the same purpose.

*On leave 1976-77.

COURSES

11. INTRODUCTION TO PHYSICAL GEOLOGY.

The important geologic concepts needed to both understand our planet's structure and provide the foundation for advanced study in the geological sciences will be covered. Recent findings in geophysics, geochemistry, oceanography, and space science will be related to the subject matter of classical geology. Lecture, lab.

Full course, Semester 1.

Ms. Rehmer, Mr. Lewis.

12. HISTORICAL GEOLOGY.

The geologic history of continents, oceans, and the evolution of life through the ages, with emphasis on the North American continent.

Full course, Semester 2.

Ms. Rehmer.

111. INTRODUCTORY MINERALOGY.

Study of crystallographic, physical, and chemical properties of common minerals. Field trip. Laboratory. Prerequisite: Geology 11.

Full course, Semester 2.

Ms. Rehmer.

131. STRUCTURAL GEOLOGY.

Analysis of rock formation based on the principles of mechanics and the utilization of research data obtained from laboratory and field investigations. The principles of structural geology will be applied to the interpretation of major fold, fault, and fracture systems of the earth. Field trip. Laboratory. Prerequisite: Geology 11.

Full course, Semester 2.

Ms. Rehmer.

141. THE FOSSIL RECORD.

A systematic survey of the morphology, taxonomy, and geologic history of groups of organisms commonly found as fossils. The techniques and principles used for interpreting the fossil communities in terms of age and environment will be discussed. Field trip. Laboratory.

Full course, Semester 2.

Mr. Nunnemacher.

151. INTRODUCTORY FIELD METHODS. Not offered, 1976-77.

A survey course in field geology. Includes introductory methods in topographic and structural mapping, hydrogeology, and air photo interpretation. Numerous field excursions. Prerequisite: permission of instructor.

Full course.

Ms. Rehmer, Mr. Lewis.

161. SPECIAL PROJECTS.

Selected research topics in geology. Prerequisite: permission of instructor.

Full course.

Staff.

171. ENVIRONMENTAL GEOLOGY. Not offered, 1976-77.

The application of geological specialties to environmental problems. Geologic processes, earth resources, and engineering properties of rocks and surficial deposits as important to human activities will be emphasized. Prerequisite: Geology 11. or Geography 014. Lecture and discussion.

Full course.

Mr. Lewis.

201. SEMINAR IN NEW ENGLAND GEOLOGY.

Geology of the Northern Appalachians with emphasis on orogenic events, paleogeographic reconstructions, plate tectonics models for Appalachian folding, post-tectonic sedimentation, glaciation. Individual projects. Three local field trips. Prerequisite: Geology 11. or 12. and permission of instructor.

Full course, Semester 2.

Ms. Rehmer.

German

(See Department of Foreign Languages and Literatures.)

Government and International Relations

DEPARTMENT FACULTY

John C. Blydenburgh, Ph.D., Professor of Government, Department Chairman

Morris H. Cohen, Ph.D., Professor of Government; Representative, Washington Semester Program Cynthia H. Enloe, Ph.D., Associate Professor of Government and International Relations; Director of the Graduate Program Roger E. Kasperson, Ph.D., Professor of Government and

Geography
Knud Rasmussen, Ph.D., Associate Professor of Government

Ann T. Schulz, Ph.D., Associate Professor of Government and International Relations

Sharon P. Krefetz, Ph.D., Assistant Professor of Government Onkar S. Marwah, Ph.D., Assistant Professor of Government and International Relations

Saul B. Cohen, Ph.D., Professor of Geography, Director of the Graduate School of Geography and Adjunct Professor of Government and International Relations

Sherman S. Hayden, Ph.D., Professor of International Relations, Emeritus

UNDERGRADUATE PROGRAM

The basic premise of the program in the Department of Government and International Relations is that the knowledge which is the product of political research is not different fundamentally from the knowledge that is useful to a political actor. The implication of this point for our program is that the same curriculum which effectively trains potential political actors, be they citizen or public servant, can prepare a person for a career as a scholar.

The identity of political science as a discipline, like most of the social sciences, suffers because there is not a non-academic profession associated with it. If there were, the problem of setting up program criteria would be trivial. We have no illusions about remedying this deficiency with a program designed to train professional politicians or government workers. Nevertheless, we sincerely hope that some of our students will go on to careers in municipal, state, and federal government and, of course, the many public careers outside government — journalism, law, public interest organizations, business, and education.

The aim of the department, therefore, is that all students who come in contact with us will be more competent political actors — at whatever level they choose — than they would have been had they not come in contact with us. For the government major we have the additional aim that he or she should be able to acquire from us knowledge which would complement a career in

the practice or the study of public affairs.

The focus of politics is the future — what the state will be and what it ought to be. These, too, are the central problems for political science: the development of predictive theory based on a clear conception of the present; and the establishment of a critical perspective from which to evaluate and explore normative political theory. Therefore we see three components, three types of political education, that make up an effective political science curriculum: (1) a description of the present; (2) the concepts and skills useful for constructing predictive theory; (3) the intellectual skills necessary for critically evaluating normative theory.

Descriptive Component

First, an effective political science curriculum should provide useful information about politics and government; students exposed to the curriculum should have a knowledge of political and governmental institutions, their operations, their inter-relationships, and their role in political systems. The curriculum includes the provision of skills useful in measuring and analyzing information about politics and government. In short, the curriculum should provide an accurate description of the politics and government that students are likely to encounter in their lives after Clark.

Predictive Component

But information about politics and government is not sufficient for understanding. To understand means, at least in part, to have prudent expectations about the future: the effective political actor has to be able to make useful predictions. Thus we aim to provide models and theories with which students can use present information to make inferences about the future.

Normative Component

While political argument is enabled by uncertainty, it is necessitated by ideological disagreement. Thus the third component of an effective curriculum is the development of analytic skills useful for evaluating normative judgments about politics and government. The successful political actor, as citizen or professional, is constantly exposed to arguments about how the state ought to be. The critical thinker — the competent analyst of normative political argument — will be among the most effective participants in an open society.

The Government Major

The structure of the major is meant to accomplish the above three goals while providing for the non-major as a by-product. The major consists of program requirements and a sub-field specialization in which the major chooses to explore a narrower field in greater depth. In a costless world it would be difficult to choose an ideal set of sub-fields. Our position is that the sub-fields we offer should be those in which we feel competent; thus, until and unless resources change, we will regularly offer three: American politics, comparative politics, and international relations. While we will not foreclose other options, normally a major is expected to choose from among these three. Exceptional students have the additional option of participating in the departmental honors program in the junior or senior year.

Program Requirements

The major is required to take a total of nine government

courses, including Government 103.

All majors are required to take Government 103: Introduction to Political Investigation. This course aims to introduce and develop skills in analyzing normative argument, formal political theory, and the principles of empirical investigation. The course is taught with a standard structure, aims, and assignments, but not with standard substance. All faculty teach one or more sections of this course annually. The substantive content of the course can vary with the instructor because the aims of the course can be achieved using readings and research from any of the conventional sub-fields of political science. Government 103. can be seen as a mini-curriculum which, regardless of its substantive content, prepares the major for the study of politics.

The relationship between politics and economics and between the respective disciplines is so fundamental that all

majors are required to take Economics 11

The remaining program course requirements are two: (1) one course in normative political theory and, (2) one course in research skills applicable to the major's sub-field. The normative theory requirement can be satisfied with any of the theory courses offered in the Department of Government and International Relations, though ordinarily we expect most students to meet the requirement with 205.1., or 205.2. The research skills requirement can be met with 107. (Research Methods in Politics), or with an appropriate course from another discipline. (A list of such courses is available in the Department of Government and International Relations Office.)

Subfield Specialization

The major must take one subfield introductory course, two additional government courses in that subfield, and three related courses from other disciplines. Three government courses must be selected from outside the subfield. (Lists of related courses for each subfield are available in the Department of Government and International Relations Office.) Each of these three major disciplinary subfields are themselves open to a variety of topical emphases, thus allowing flexibility for undergraduate course selection.

Honors students may use only one credit toward the subfield requirement, the remaining one or two credits being useful for the non-subfield government course requirement.

HONORS PROGRAM

Departmental Honors in Government and International Relations is a program intended to give exceptional students an opportunity to pursue an intensive course of study of their own choosing, under the direction of a member of the department faculty. The course of study can consist of formal course offerings, independent readings and research, or some combination of each. It culminates in an honors thesis, completed during the last term of the honors program. The program normally consists of one credit per term, and students can opt for a three-term or a two-term program, beginning in the second term of the junior year or the first term of the senior year.

At the conclusion of the program, students will be given a comprehensive oral examination covering the thesis and its field. According to the department's evaluation of the students' theses and comprehensive examination the faculty will decide whether to award each student Honors, High Honors, or Highest Honors.

Any government major with an exceptional academic record who is interested in pursuing an intensive course of study in a particular area is eligible to apply for admission to the honors program.

Application procedures

Normally deadlines for submission of completed applications are four academic calendar weeks prior to the beginning of the term in which the applicant wishes to begin a program. A complete application consists of a one or two-page typed proposal, a letter of recommendation from a faculty member in the department (usually the proposed honors adviser), and a transcript of the applicant's academic record.

Proposals from applicants to a three-term honors program consist minimally of identification of the topic of interest and a

general statement of the approach to the topic.

Proposals from applicants to a two-term honors program are expected to be more substantial, containing a fairly specific statement of hypotheses or theories to be tested, questions to be explored, and the method and research to be used in the program.

Selection procedures

All applications are reviewed at a meeting of the faculty of the Department of Government and International Relations. Applicants are evaluated as to ability to work independently, intellectual ability, the appropriateness of their acquired skills, and other factors which indicate the likelihood that each applicant can successfully complete the program. Applicants will receive notification of the department's decision. An applicant may be admitted in a provisional status, which means that his or her application will be reconsidered after one term's work and the department will then decide whether or not to admit the student to regular status in the program. Review or appeal of the decision can be made through the department chairman.

Special programs in the department include the Sherman S. Hayden Seminar in International Affairs, the Washington Semester Program under the auspices of the American University in Washington, D.C., opportunities to serve on the editorial board of the Student Journal of Politics, and the Sister Universities Exchange Programs.

GRADUATE PROGRAM

The department offers a program leading to the Master of Arts degree in Government or International Relations. It is expected to be of one year's duration, with a student finishing at the end of either the spring term or the Modular Term. The requirements are essentially those of the University as stated in the Graduate School section of this bulletin and include the department's graduate research methods seminar plus other courses of the student's choice in the Department of Government and International Relations or in other social science departments. A final oral examination and a master's thesis,

which may develop out of a research seminar paper, are also required.

Some tuition scholarships plus a limited number of teaching assistantships which carry stipends up to \$2,800, depending on time and duties involved, are available.

The degree of Doctor of Philosophy is being held in abeyance at the present time.

COURSES

PROGRAM AND GENERAL COURSES

103. INTRODUCTION TO POLITICAL INVESTIGATION.

What is politics? People in the world of politics — ideologies and the quest for power. Theoretical and empirical approaches to the study of politics are considered. Techniques of political analysis are applied in a variety of settings. Topics vary by section, but common assignments are used to develop research and analytical skills.

Full course, Semesters 1, 2. Staff.

107. RESEARCH METHODS IN POLITICS.

Students will be exposed to some of the basic tools useful for analyzing and creating data in political research. Included will be some elementary non-parametric statistics, hypothesis testing, and measurement theory.

Full course, Semester 1.

Mr. Blydenburgh.

Geography 125. DEVELOPMENT PROBLEMS.

Refer to course description under Geography 125. Mr. Berry, Ms. Enloe, Staff.

Geography 130. REGIONAL POLITICAL GEOGRAPHY.

Refer to course description under Geography 130. Mr. Cohen.

205.1. ROOTS OF POLITICAL THOUGHT.

A study of the development of Western political thought from the Socratic philosophies to Hobbes. The study will deal with the evolution of political thought in the context of influential, social, political, and economic forces.

Full course, Semester 1.

Mr. Rasmussen.

205.2. RECENT POLITICAL THEORY.

A study of modern political theory as developed in the context of the social, political, and economic forces which have shaped Western thought since the French Revolution.

Full course, Semester 2.

Mr. Rasmussen.

207. BLACK POLITICAL THOUGHT. Not offered, 1976-77.

A study tracing a conscious development within the Black community starting from the slave society and moving to the present. In the process, three lines of thought are developed: (a) the political thought of accommodation, (b) the political thought of protest and (c) the political thought of revolutionary confrontation. Prerequisite: permission of instructor. Full course.

Mr. Rasmussen.

214. SEMINAR: BUSINESS AND POLITICS.

This course will examine the social responsibility of business to a community both from a theoretical and a practical point of view. The theoretical aspects will be explored through a series of assignments of major writers in this area. The practical aspects will be dealt with through the use of community resources in, for example, the legal, educational, and political sectors. This course will take the place of the tutorial program; it will therefore offer the latitude of individualized reports in specific areas of interest. Enrollment limited to 20.

Full course, Semester 2.

Mr. Rasmussen.

Geography 230. POLITICAL GEOGRAPHY AND ITS SPATIAL CONSEQUENCES.

Refer to course description under Geography 230.

Mr. Cohen.

231. SEMINAR: POLITICS AND THE ENVIRONMENT.

A state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or advanced study. Topics include the concept of the public interest, public attitudes to the environment, regulatory agencies, decision-making theory, the role of Congress, etc. A major seminar presentation and substantive research paper will be required. Prerequisite: consent of the instructor. Full course, Semester 2.

Mr. Kasperson.

232. POLITICAL THEORISTS AT WORK. Not offered, 1976-77.

Under the Department of Government and International Relations "Redesigned Major," this course will be one of several titled "Political Theorists at Work" that will be required for majors. Each such course will focus on a single political thinker whose work has influenced the way we conceive of governance and the state. Open to majors and non-majors. Previous courses in government, philosophy, intellectual history, or social theory encouraged.

Full course.

Staff.

278. SEMINAR ON NUCLEAR ENERGY.

Major issues surrounding the implementation of nuclear electric power. On the technical side, the focus will be on salient aspects of nuclear technology, risk assessment, the prospects for the breeder, and the special economic problems of capital intensive, long-term investments. On the societal side, the focus will be on problems of nuclear power regulation, safety policies, accident liability, siting policy, and assessments of public attitudes. (See also Science, Technology and Society 278.)

Full course, Semester 2. Mr. Hohenemser, Mr. Kasperson.

295. ECONOMIC THEORIES OF POLITICS.

This course will review some important recent political theories which make use of economic concepts in attempting to explain political phenomena. Emphasis will be placed on evaluating the theory in terms of its success in accounting for established empirical propositions as well as its prescriptive uses and normative implications. Some of the subjects covered will be a general theory of representative government, a theory of the organization and formation of groups, and some theories of voting systems.

Full course, Semester 2. Mr. Blydenburgh.

297. HONORS IN GOVERNMENT AND INTERNATIONAL RELATIONS.

Variable credit, Semesters 1, 2.

Staff.

298. APPLICATIONS OF GAME THEORY TO POLITICS. Not offered, 1976-77.

After covering the basic concepts of game theory, the course will pursue applications to a variety of classes of political conflict; to strategy in international relations; to political campaign decision-making, and to theories of the formation of political coalitions.

Full course.

Mr. Blydenburgh.

370. POLITICAL SCIENCE RESEARCH: TECHNIQUES AND METHODS.

The major concern of the seminar will be with gaining an understanding of those social science techniques and methods which are most appropriate to conducting political science research. The course will begin with consideration of how one develops a research design, generates hypotheses, and builds theories. General topics to be discussed include causal thinking,

the notion of controls, and the concepts of validity and reliability. Specific topics will include survey research, aggregate analysis, content analysis, simulation, correlation and regression analysis, and factor analysis. In addition, special attention will be given to problems involved with doing crosscultural research and analyses through time. Open to graduate students and, with permission of the instructor, to advanced undergraduates.

Full course, Semester 1.

Ms. Krefetz.

READINGS, RESEARCH AND THESIS COURSES 88. DIRECTED READINGS.

Variable credit.

Semesters 1, 2.

Staff.

89. SPECIAL PROJECTS.

Variable credit.

Semesters 1, 2.

Staff.

360. GRADUATE READINGS COURSES.

Variable credit.

Semesters 1, 2.

Staff.

361. GRADUATE THESIS COURSE.

Variable credit.

Semesters 1, 2.

Staff.

AMERICAN POLITICS

150. INTRODUCTION TO AMERICAN GOVERNMENT.

An introductory study of the processes and efficacy of the American governmental system. Primarily devoted to an overview of contemporary aspects of the national government, the course includes problems of federalism, salient civil liberties issues, and the roles of Congress, the President, the Supreme Court, and political parties in the decision-making process. Full course, Semester 1.

204. SEMINAR IN AMERICAN PRESIDENCY.

Not offered, 1976-77.

A study of the Constitutional and other powers and functions of the President and the Presidency via selected readings and individual research.

Full course.

Mr. Cohen.

219. WOMEN AND POLITICS.

An exploration of the political behavior of American women and of the factors which condition their behavior, including: socialization and learning of sex roles; social background and life situation variables; and historical arrangements of political institutions. Among the questions to be considered are: Why are women generally less interested, less active, and less efficacious politically than men are? What are the characteristics of those women who do engage in political activity? What is the likely impact of the Women's Liberation Movement and women's issues on the future behavior of women in politics? Prerequisite: one previous government course.

Full course, Semester 2.

Ms. Krefetz.

220. URBAN GOVERNMENT AND POLITICS.

Not offered, 1976-77.

The primary focus of this course is on the various socioeconomic and political inputs that affect the functioning of American urban political systems. What are the resources and constraints which the inputs place upon and provide for the decision makers? Topics to be discussed include: the social, economic and political nature of the city; the effects of the state and federal governments; relations between city and suburb; political structures and styles; the distribution of power, and race; ethnicity and ethos theory. In the later part of the course, some attention will be given to differences in urban policy outputs, primarily in the fields of education and welfare. Where relevant, differences and similarities in the politics of urban areas outside the United States will be considered. Open to sophomores, juniors, and seniors.

Full course.

Ms. Krefetz.

221. SUBURBIA: PEOPLE AND POLITICS.

The growth of suburbs in the United States since the end of World War II has had considerable impact upon the nature of our metropolitan areas. Why has this growth occurred? What are the characteristics of the people who live in suburbs? Is suburban homogeneity a myth or reality? How are suburbs governed? What is political participation like? What sorts of issues are important to suburbanites? Is there a national suburban policy? Ought there to be one? These are the major questions to be explored in this course. Open to sophomores, juniors, and seniors. Full course, Semester 1.

Ms. Krefetz.

222. SEMINAR: PUBLIC POLICIES AND AMERICAN CITIES. Not offered, 1976-77.

What difference does it make "who governs?" What sorts of variations are there among cities in their policy outputs in such areas as welfare, education, poverty, health, the police, and the criminal courts; and what accounts for the differences? After a critical review of the existing literature, research will be conducted on a policy area of the student's choosing in Worcester and/or other cities. Prerequisite: Government 220. Full course.

Ms. Krefetz.

223. SUBURBAN POLICY ISSUES.

This seminar will pick up where the introductory suburban politics course leaves off and explore politics and policy-making on several major issues in suburban communities, e.g. zoning and land use, education, and property taxes. Students will conduct original research on these issues in Worcester and Boston suburbs. Prerequisite: Government 221. or permission of instructor. Limited to 15 students.

Full course, Semester 2.

Ms. Krefetz.

225. POLITICS OF BUREAUCRACIES. Not offered, 1976-77.

Bureaucrats are among the most neglected — and influential — actors in contemporary politics. This course will examine the dynamics of bureaucratic politics in the U.S., with a special concern for federal level departments. Some of the questions to be pursued are: How much control does the White House exercise over federal agencies? Has "Watergate" had a lasting impact on bureaucratic operations? Why are some departments, such as Treasury and Defense, so much more influential in bureaucratic competition than others? How do bureaucrats cultivate their clienteles? Open to majors and non-majors. Some previous courses in government will be helpful. Full course.

Ms. Enloe.

251. AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS.

A study of the structure and functioning of the American party system and the role of selected interest groups in American politics including some ethnic and economic influences. Special emphasis is placed on the processes and problems involved in the nomination and election of the President. Prerequisite: American Government desirable but not required. Full course, Semester 1. Mr. Cohen.

254a,b. AMERICAN CONSTITUTIONAL LAW. 254a. - Not offered, 1976-77.

A study of the major developments and problems of American Constitutional law and judicial behavior approached primarily by analysis of court cases. Government 254b. explores the area of

civil liberties and includes such issues as freedom of speech, press, and religion; civil rights; and selected aspects of the rights of a person accused of a crime. Emphasis is placed on recent and contemporary developments and on class discussion. Prerequisite: permission of instructor.

254b., Semester 2. Mr. Cohen.

255. SEMINAR IN THE LEGISLATIVE PROCESS.

A study of policy making in Congress, involving problems of legislative organization and procedure, leadership, and presidential-legislative relationships; examined primarily by the case method and by individual research on particular pieces of recent legislation. Prerequisite: permission of instructor. Limited to 10 students.

Full course, Semester 2.

Mr. Cohen.

260. POLITICS OF ENVIRONMENTAL MANAGEMENT.

Not offered, 1976-77.

This course involves case method analysis applied to fictional cases of decision-making on environmental issues. Students will be expected to "solve" the case problems and to defend their solutions. The cases are designed to illustrate the intertwining of environmental problems with political considerations. Particular attention is devoted to the value issues implicit in such decisions, the constraints upon different actors in the decision process, and the need for certain political skills. Cases are augmented by a reading period and guest speakers. Limited to 20 students.

Full course.

Mr. Kasperson.

275. CITIZEN PARTICIPATION. Not offered, 1976-77.

The purposes of this course will be: (1) to analyze major theories as to the causes and forms of participation in the polities; (2) to examine our understanding of participation in the context of alternative models (e.g. pluralist welfare state, elitist power structure, technological state) of the polity and; (3) to review contemporary citizen participation programs implemented by various governmental agencies. Limited to 20 students. (See also Geography 275.)

Full course, Semester 2.

Mr. Kasperson.

294. ELECTORAL BEHAVIOR. Not offered, 1976-77.

Contemporary studies of voting behavior will be used to explore the meaning of elections as the linkage between government and citizenry. The course will address the questions of who votes and why, and it will aim to identify and explain long term trends in elections by focusing on the theory, methods and data of recent political research.

Full course.

Mr. Blydenburgh.

COMPARATIVE POLITICS

106. COMPARATIVE POLITICAL SYSTEMS.

The course approaches the pitfalls and rewards of comparative analysis from three directions. First, we will concentrate on a single foreign political system in all its complexity (e.g., Britain, Mexico, Japan, etc.) Second, we will look at one political issue (e.g., pollution, crime, land reform) to see how several different countries cope with demands. Finally, we will examine one concept used by political scientists to compare political systems (e.g., recruitment, ideology, etc.). Open to majors and non-majors. Full course, Semester 1.

167. REVOLUTION AND POLITICAL VIOLENCE.

Not offered, 1976-77.

Seminar. The roots of political violence and revolution — social change, political legitimacy and individual psychology. Specific revolutions studied through the writing of participants, popular

writers and political analysts. External intervention in domestic rebellions. Limited to 25 students.

Ms. Schulz.

215.1. PROBLEMS IN DEVELOPMENT POLICY: FOOD.

Food and malnutrition will be considered in their political aspects. Focus is upon decisions which affect the production and distribution of food within "fourth world" states. Attempts to intervene at the international level will be reviewed. The influence of U.S. government policy upon food supplies is examined.

Full course, second half, Semester 1.

Ms. Schulz.

226. POLITICS OF THE MIDDLE EAST.

Political change within Middle Eastern countries from North Africa to Afghanistan. Attention given to social structure, styles of political competition, leaders and ideologies, and the relationship between political and economic life.

Full course, Semester 2.

Ms. Schulz.

228.1. SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: REPRESENTATION.

Political representation in theory and practice. Several concepts of representation are assessed in terms of their implications for popular control over policy-making and of their relevance to the solution of social problems. Case studies of representative systems in practice are drawn from West Africa, Mexico, and medieval Europe.

Full course, Semester 2.

Ms. Schulz.

228.3. SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: ETHNIC CONFLICT.

This seminar will explore the meaning of "ethnicity" for groups as different as South African Afrikaners, Iraqi Kurds, and French Canadians in the context of political development and political conflict. Some previous study of comparative politics, history, or sociology will be very useful.

Full course, Semester 1.

Ms. Enloe.

233. INEQUALITY AND POLITICAL DEVELOPMENT. Not offered, 1976-77.

Seminar. Social inequality, income distribution and political change. The political economy of modernization through studies of international capital relations, state socialism and subsistence agricultural economies. Redistribution policies and political conflict. Limited to 20 students.

Full course.

Ms. Schulz.

235. COMPARATIVE BUREAUCRATIC POLITICS.

In both industrialized and developing nations, bureaucratic departments have become critical to policymaking and implementation. This course will use cases from Europe, Africa, and Asia to test generalizations about bureaucrats' impact on their political systems.

Full course, first half, Semester 1.

Ms. Enloe.

236. POLITICS OF SOUTHEAST ASIA.

This course analyzes the changes, or blockage of changes, that have occurred in the area since 1945. Social, economic, cultural, and foreign factors shaping politics are examined. All countries will be discussed but focus will be on Malaysia, Indonesia, the Philippines, and Vietnam.

Full course, Semester 2.

Ms. Enloe.

237. POLITICS OF SCANDINAVIA.

This course will analyze twentieth-century political thinking with specific reference to Scandinavian thought and political systems. The examination will be of major trends as they constitute either unique Scandinavian developments or reflect a

broader European pattern of thinking. Full course, Semester 1. Mr. Rasmussen.

265. POLITICS OF JAPAN.

Not offered, 1976-77.

Japan is considered today one of the world's four great powers. Yet its internal political dynamics are not widely understood by Americans. This course will explore the major factors that have shaped Japanese politics and government policies since 1945. Among the topics that will be analyzed are: the group loyalties of Japanese; the factional rivalries within major parties; the influence of bureaucrats; the ambivalence that plaques Japan's foreign relations. The course is open to majors and non-majors. Those interested in pre-1945 Japan are urged to take the course offered in History. Some previous courses either in government or in Asian studies are helpful.

Full course.

Ms. Enloe.

INTERNATIONAL RELATIONS

169. INTRODUCTION TO INTERNATIONAL RELATIONS.

The course will seek to develop a general understanding of international relations study. It will focus on problems of conceptualizing the international system, issues of theoretical inquiry, and the interaction of states in analytical form. Current international relations will be drawn upon to illustrate the complexity of interstate relations. No prerequisite. Full course, Semester 1. Mr. Marwah.

196. CONTEMPORARY INTERNATIONAL POLITICS.

Not offered, 1976-77.

The interactions of Superstates, Middlestates, and Smallstates; International Politics vs. International Society, i.e, the ambivalent roles/needs of: Nation and World, War and Peace, Power and Weakness, Prosperity and Poverty, Freedom and Oppression, Perception and Illusion, Activity and Apathy. Revolution and Stability, Identity and Transformation: Cooperation and Conflict as the ongoing process of inter-state relations.

Full course.

Mr. Marwah.

211. THEORIES OF PEACEMAKING IN INTERNATIONAL RELATIONS.

The course will consider approaches to ameliorating international conflict within the givens of the international system. Theoretical efforts at understanding world issues from a transnational perspective will be discussed. Practical problems facing such efforts will be evaluated. Propositions about the future will be attempted. To be offered in alternate years. Limited to students with instruction in basic international relations

Full course, Semester 1.

Mr. Marwah.

212. PROBLEMS IN INTERNATIONAL RELATIONS: LAW AND POLITICS OF THE SEAS.

More than 110 states with approximately 200,000 nautical miles of coastline abut the international seas. If they extend their jurisdictions to 200 miles beyond the coast, about 36% of the ocean's surface will be removed from free access for all nations. Allied to the political effects of what may become "the biggest land (sea) grab in history" are questions relating to exploitation of the resources of the sea-bed; regulation and control of fisheries; control of pollution; Freedom of navigation in international straits. The course will assess the conflict of interests which have arisen in recent years concerning the high seas, and what efforts are underway for sharing their usage. Limited to students with background in law, economics, or international relations. To be offered every year. (The topic for seminar will change according to saliency of issue or regional focus of course outline.)

Full course, Semester 2.

Mr. Marwah.

234. THE ARAB-ISRAELI CONFLICT. Not offered, 1976-77.

The historical background of the Arab-Israeli conflict, external involvement in the area, military outcomes, and negotiating strategies. Israeli and Arab state foreign policies. Palestinian nationalism, and the United Nations. Weapons flows and strategies.

Full course.

Ms. Schulz.

239. THE UNITED STATES IN WORLD AFFAIRS.

The 'first new nation'; the stages of role-change from small power to super power; American nationalism and internationalism; insular republic and global actor; the American paradigm and American power in relation to other states: conflictual interests of the American state in the post-Second World War period; the strategic interaction of American and Soviet ideologies; the parallel demands of humanism and realpolitik in American foreign policy. No prerequisites. To be offered every year.

Full course, Semester 2.

Mr. Marwah.

264. "STATES AND STRATEGIES IN THE INDIAN OCEAN REGION." Not offered, 1976-77.

Understanding the strategic interaction of great, middle and small powers in the western half of the Indian Ocean and the land territory of West Asia-Northeast Africa. The course will evaluate tensions and conflicts developing in the area over land or crucial raw materials and their impact on the international system. Prerequisite: upper division students with background in international relations. Limited to 15 students. Full course. Mr. Marwah, Ms. Schulz.

291. THE POLITICAL ECONOMICS OF CHINA AND INDIA. Not offered, 1976-77.

Seminar on changing Man and Society in two large non-Western environments: developing frameworks of analysis for comparison and contrast between China and India, and thereafter, with Western models of society. Prerequisite: upper division students with some background in economics and history. Limited to 15 students. Full course. Mr. Marwah.

292. NUCLEAR WEAPONS POLITICS.

Seminar on the international political effects of the spread of nuclear weapons and technology. The following types of questions will be raised: How did the nuclear age unfold? What role did pioneer states assign to nuclear weapons as instruments of statecraft? What lessons have succeeding states imbibed? What can be expected in the future? Can nuclear weapons be controlled by international agreement? The objective will be to assess the ways in which nations may cope with the Janus-face results of the nuclear sciences as they affect the bases of international power and influence. Limited to students with instruction in basic international relations courses. To be offered every year.

Mr. Marwah.

Hebrew

Full course, Semester 2.

(See Department of Foreign Languages and Literatures)

History

DEPARTMENT FACULTY

George A. Billias, Ph.D., Professor of American History Robert F. Campbell, Ph.D., Professor of American History* Tamara K. Hareven, Ph.D., Professor of American History***

Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt

Professor of European History

Daniel R. Borg, Ph.D., Associate Professor of European History Richard B. Ford, Ph.D., Associate Professor of Comparative History, Co-director, International Development and Social Change

Ronald P. Formisano, Ph.D., Associate Professor of American

History **

Paul Lucas, Ph.D., Associate Professor of European History William Koelsch, Ph.D., Associate Professor of Geography and History, University Archivist

Michael R. Godley, Ph.D., Visiting Assistant Professor of Asian

Ronald Story, Ph.D., Visiting Assistant Professor of American History

Marcus A. McCorison, M.S., Lecturer in American History, Director of the American Antiquarian Society

Emanuel Goldsmith, Ph.D., Visiting Lecturer in Jewish History Herbert Rosenblum, Ph.D., Visiting Lecturer in Jewish History Thomas C. Barrow, Ph.D., Professor of American History (Affiliate)

Michael Sokal, Ph.D., Associate Professor of History of Science and Technology (Affiliate)

Dwight E. Lee, Ph.D., Jacob and Frances Hiatt Professor of European History, Emeritus, Dean of the Graduate School, Emeritus

On leave of absence, 1976-77:

*Semester 1.

**First half Semester 1, and Semester 2.

***Semesters 1 and 2.

UNDERGRADUATE PROGRAM

History is a popular and essential part of any program of undergraduate studies. It provides students with an insight into their own individual and collective past in American and, to some extent, European history as well. It also introduces them to the non-American, non-western world by giving them some understanding of the historical evolution of other peoples and cultures. By a longstanding tradition, the Clark Department of History encourages its students to take a world-wide view and to compare the conditions and fortunes of different parts of the world.

Undergraduate Major

A student majoring in history takes nine courses of history. Of the advanced (200 level) history courses in a major's program, at least two courses must be in American history and another two courses in non-American history. An additional three courses must be taken in economics, geography, government, psychology, or sociology (as related fields).

The department recommends, though it does not require, that its undergraduate majors attain proficiency in at least one modern foreign language. Students planning to go on to graduate school are advised that demonstration of competence in one or more appropriate foreign languages is an important consideration in the admissions and fellowship award process of most leading universities. Students should also note that a knowledge of statistics and computer usage is highly desirable for advanced work in history.

Special Programs

Majors in history are encouraged to plan, in consultation

with their advisers, a coherent program of study. Special attention should be paid to opportunities for interdisciplinary programs. Students should also explore opportunities under the new program being prepared for the Extended History Major in the projected University-College. That program envisages interdisciplinary "tracks" of concentration in American, European, Russian, East Asian, and African history, with additional options for specialized interests within each of these tracks.

Whatever special programs students choose to pursue, the department recommends (but does not require) that they submit to the faculty adviser in writing, a statement of the programs' purposes together with a tentative list of courses.

Students may extend the scope of their undergraduate programs through the offerings of cooperative colleges in Worcester, by independent study and research, and in the Honors program in history. Further information about these matters is available from the department chairman or other members of the department. See also the Note under DEPARTMENT COURSES below.

GRADUATE PROGRAM

The areas of graduate study at Clark are American history and modern European history, with select non-western history as supporting fields. Emphasis is placed on American history because of the department's affiliation with the American Antiquarian Society, which provides graduate students with the facilities of one of the country's finest research libraries, with over 750,000 volumes and many valuable manuscripts relating to early American history down to 1876. A dozen smaller libraries in Worcester, with combined holdings of over a million volumes, further extend the resources of the Clark library, as does easy access to Boston, Providence, and New Haven area research facilities.

The department offers graduate work in the form of reading seminars (colloquia), research seminars, and individual tutorials for both reading and research purposes. First and second year students take three courses each semester; one of these courses must be expressly devoted to research for the purpose of producing a substantial research paper. Beyond their research seminar, students fill out their program by taking colloquia, additional research seminars, and upper-division undergraduate courses. The chairman assigns incoming graduate students to faculty advisers, who help design their programs. With the permission of the adviser, a student is encouraged to take suitable courses in other departments or Consortium colleges. *Master of Arts*

The department enrolls a limited number of terminal master's candidates and awards the degree to students who have completed the work of eight courses and a one-year residence requirement; have (1) either submitted two substantial research papers prepared in two seminars which are jointly equivalent to the master's thesis, or (2) submitted a master's thesis; and have passed the required oral examination.

Ph.D. candidates who have passed their preliminary examination, whether or not they will continue with a dissertation, may also receive the degree of Master of Arts.

DOCTOR OF PHILOSOPHY

The traditional doctoral program is designed to enable students to master the discipline of history through research, reading, and teaching. In addition to meeting the seminar and course requirements outlined above, a student who enters without an M.A. degree must spend at least three years in full-time residence at Clark, satisfy the language requirement, gain some experience in college teaching, pass the preliminary examination, and write a doctoral dissertation within seven years of matriculation.

Language Requirement: Students concentrating in American and British history must pass an examination in one foreign language: French, German, Spanish, or Russian. Students concentrating in American history may substitute a program in quantitative techniques or computer science for a foreign language. Those specializing in European history must pass examinations in two foreign languages, normally French and German. The chairman will designate an examiner in each language, who will determine whether the student is proficient enough to use the language as a research tool. An entering student must take a language examination as soon as it is offered in the first semester of residence, and must have passed this examination by the end of the first calendar year of residence in order to register for the second year. If required, the second language examination should be attempted early in the second year and must be completed before the student registers for the third year. All language requirements must be satisfied before the preliminary oral examination can be scheduled.

Teaching Experience: Some teaching experience at the college level is a prerequisite of the Ph.D. degree. Students normally meet this requirement in their second or third years as

teaching assistants.

Fields: Soon after arriving at Clark, each student, in cooperation with his/her adviser, defines four fields and prepares for them in whatever ways seem appropriate in view of her/his background and interests. Students specializing in American history normally offer the full scope of American history as two fields. Those concentrating in non-American history normally offer one American field (the dividing line between the two American fields generally falls at 1815). Any student may offer a non-historical subject as a field, usually within the social sciences, or prepare an interdisciplinary field.

Preliminary Examination: One of the four fields must be offered for oral examination at the end of the student's first year. Prior to taking the oral, the student must submit two research papers completed in the first year. The remaining three fields will be examined, again orally, at the beginning of the student's third year. The combined oral examinations constitute the "preliminary examination" required by the Graduate Board. Students who have passed their preliminary examinations may, upon request, receive the degree of Master of Arts.

Dissertation: Students are advised to consider and explore dissertation topics during their years of residence and to choose a possible dissertation adviser as soon as possible. The process of writing a dissertation is outlined in a brochure, "Dissertation S.O.P.," which may be obtained from the department secretary.

Deadline for Completion: All work required for the doctor's degree must be completed within a seven-year period after matriculation. In unusual circumstances only, such as involuntary military service or extended illness, the department may grant a specified extension of time.

Note: The course offerings below do not include courses that may be taken through the Consortium of colleges in the Worcester area. The department recommends especially that students consider courses at the College of the Holy Cross in medieval, Renaissance and Reformation, and Latin American history.

DEPARTMENT COURSES

NOTE: Undergraduate courses are of two types: (1) designed for freshmen and numbered 100-199, and (2) advanced courses numbered 200-299. The latter carry no prerequisite (unless especially noted) and are open to qualified freshmen without the consent of the instructor. In case of doubt, freshmen should consult their advisers and the instructor. The term "proseminar" indicates courses of limited enrollment which combine reading, discussion, and written reports or term papers.

COURSES FOR FRESHMEN

110. INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

Introduction to basic problems of interdisciplinary study and

historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. (See also English 130)
Full course, Semester 1. Mr. Ford, Mr. Formisano, Mr. Parsons.

114. CHINA TO 1880.

Lecture and discussion course on pre-modern China. The stress will be on the development of Chinese thought and society. No previous work in Chinese history is required.

Full course, Semester 1.

Mr. Godley.

115. CHINA 1800 TO THE PRESENT.

Lecture and discussion course focusing on the breakdown of imperial China and the establishment of a new order. Most of the course will be devoted to a study of China's twentieth century revolution. No previous work in Chinese history is required. Full course, Semester 2.

Mr. Godley.

120. THE BASEBALL SCANDAL OF 1919: AN INTRODUCTION TO HISTORICAL INQUIRY.

An investigation of the "fixed" World Series of 1919 and its repercussions, through primary historical materials. Students learn to construct a plausible narrative, to analyze baseball as a commercialized leisure industry, and to consider the changing nature of work and achievement in modern times, all within the context of construing a particular historical episode.

Full course, Semester 1. Mr. Story.

122. RACE AND ETHNICITY IN AMERICAN HISTORY.

This course will explore the changing racio-ethnic cultural configuration and social stratification through U.S. history. Beliefs and ideas reflecting racial and ethnic patterns will be examined to comprehend the intellectual tradition which imparted meaning to this changing social reality. Using social and intellectual history, then, this course has as its purpose an evaluation of the importance of race and ethnicity as dimensions of American history.

Full course, Semester 2. Mr. Billias.

132. MAJOR THEMES IN AMERICAN CULTURE.

An in-depth study of selected major themes and institutions in American Culture. Critical examination of the "American-ness" of such themes as Democracy, Individualism, Romanticism, Pragmatism, and Imperialism will focus on seminal, wideranging historical texts (e.g. Tocqueville's Democracy in America; Adams' Education). Literary works which express and evaluate these themes will complement this focus. Historical and literary readings will vary from year to year. (See also English 132.)

Full course, Semester 2. Mr. Campbell, Mr. Parsons.

140. HISTORY OF EUROPE FROM THE "FALL" OF ROME TO THE PRESENT.

A lecture course intended to familiarize would-be majors in history, as well as non-majors, with the basic outlines of the development of Western society.

Full course, Semester 1, Modular Term.

Mr. Lucas.

180. THE HISTORY OF TRADITIONAL AFRICA.

An introduction to the history of Africa south of the Sahara. The course will begin with the early civilizations of Kush, Axum, Ghana, Maili, Songhai, Benin, the Zanj, Kongo, and Zimbabwe and continue through to the arrival of Europe. Attention will be given to eastern, western, and southern Africa. The approach will be largely historical and anthropological.

Full course, Semester 1. Mr. Ford.

181. THE HISTORY OF MODERN AFRICA.

An introduction to recent African history, especially south of the Sahara, but not to the exclusion of events in North Africa. The course will consider the impact of European institutions on Africa and Africans. Topics will include the slave trade, colonization, independence, post-independence, liberation, and development (or non-development). The approach will be both historical and economic with some attention to anthropological questions.

Full course, Semester 2.

Mr. Ford.

AMERICAN HISTORY - PERIOD COURSES

201. AMERICA'S FORMATIVE YEARS.

The basic institutions of American civilization and the prevailing attitudes of the present were shaped in large measure during the colonial era. This course will deal with the foundations of such institutions as the family, church, and local community in America as well as the development of representative political institutions. There will also be an examination of American attitudes toward race, religion, class distinctions, cultural ethnocentrism, and imperial relations with the mother country during the same period. The aim of the course will be to analyze the reasons for two major tendencies that seemed to develop in the American colonies: the erosion of traditional European attitudes toward authority; and the emergence of a psychology of accommodation resulting from the pressures arising from the increasingly pluralistic character of the population. Full course, Semester 1. Mr. Billias.

203. ERA OF THE AMERICAN REVOLUTION.

An analysis of American society in the pre-Revolutionary period with particular emphasis upon the ideological and political developments that led to the War of Independence.

Full course, Semester 1.

Mr. Billias.

205. FORMATION OF THE NEW NATION.

An analysis of the American revolutionary experience, political theories in the making of the federal Constitution, problems of the new government, and developments in the American political tradition through the Jeffersonian era.

Full course, Semester 2.

Mr. Billias.

208. U.S. POLITICAL HISTORY 1828-1896.

Not offered, 1976-77.

An introduction dealing with the emergence of basic institutions, conflicts, and processes which became characteristic of modern American politics. Emphasis on political parties, voting, social movements, ideology. Full course.

Mr. Formisano.

218. THE U.S. IN THE 20TH CENTURY.

Not offered, 1976-77.

The American experience since about 1900 with emphasis upon the role of government in economic life and the emergence of the United States as a world power.

Full course.

Mr. Campbell.

AMERICAN HISTORY - TOPICAL COURSES

220. AMERICAN URBAN HISTORY.

A survey of the economies, politics, patterns of mobility, spatial configurations, and cultural institutions of representative cities in four eras of American history; 1750-1780, 1820-1850, 1890-1920, and 1950-1980.

Full course, Semester 2.

Staff.

221. AMERICAN SOCIAL HISTORY TO 1865.

A survey of American social development with special emphasis

on work, family relations, social structure, and cultural expression in four worlds: the Puritans, the middle colonists of the eighteenth century, the ante-bellum slaves and planters, and the bourgeois democrats of the victorious North.

Full course, Semester 1.

Mr. Story.

222. AMERICAN CONSTITUTIONAL HISTORY.

Not offered, 1976-77.

The origins and development of the American constitutional system with special reference to the role of the Supreme Court. Full course.

Mr. Campbell.

223. PROSEMINAR: AMERICAN CONSTITUTIONAL AND LEGAL HISTORY. Not offered, 1976-77.

With emphasis on the relationship of law to American society, this course dea!s with selected topics in the history of American law such as the Americanization of the common law, the foundations of American constitutionalism, the law of slavery and freedom, law and economic development, trends in legal thought and in the legal profession. Prerequisite: History 222. Full course.

Mr. Campbell.

224. AMERICAN ECONOMIC HISTORY. Not offered, 1976-77.

A study of the American economy from colonial times to the present, with emphasis on the factors contributing to economic growth.

Full course.

Mr. Campbell.

225. AMERICAN SOCIAL HISTORY SINCE 1865.

A survey of American social development with special emphasis on the development of the West and South, the rise of corporate capitalism, the creation of mass culture, the growth of the public sector, and the crises of the era of the Cold War.

Full course, Semester 2.

Mr. Story.

226. AMERICAN THOUGHT AND CULTURE: 1740-1865.

Studies in the consciousness of selected Americans under differing conditions of time, place, and circumstance. Emphasis on the reading and analysis of primary texts. Field and laboratory exposure to music, art, architecture, and landscape analysis. Full course, Semester 1. Mr. Koelsch.

227. AMERICAN THOUGHT AND CULTURE, SINCE 1865.

Main currents in American intellectual history since the Civil War, with emphasis upon social and political thought.

Full course, Semester 2. Mr. Campbell.

228. PROSEMINAR: GOVERNMENT AND THE ECONOMY. Not offered, 1976-77.

Topics in the history of the role of federal and state governments in the promotion and regulation of the American economy.

Full course.

Mr. Campbell.

229. PROSEMINAR: VICTORIAN BOSTON.

Intellectual currents, cultural movies, the arts, and institution-building in 19th century Boston as a case study in the "culture" (high, middle and low) of a Victorian city. May be taken either consecutively with or independently of Geography 229. (See also Geography 229.)

One-half course, Semester 1.

Mr. Koelsch, Mr. Story.

232. AMERICAN JEWISH HISTORY: FROM COLONIAL TIMES TO THE 1970'S.

(See description under Jewish History section.)
Mr. Rosenblum.

234. RIGHT WING MOVEMENTS, 1790-1970.

Wallace, McCarthyism, American fascism, Social Justice, Red Scare, A.P.A., Know nothing, Antimasons, Anti-illuminati,

and other movements. Prerequisite: permission of instructor. Full course, first half, Semester 1. Mr. Formisano.

235. BUSING IN BOSTON, 1974-76: AN HISTORICAL INQUIRY. Not offered. 1976-77.

Double-credit seminar, interdisciplinary, interinstitutional. Explores history of: (1) legal framework; (2) ethnic groups; (3) Blacks; (4) politics since 1960; (5) desegregation in other cities; (6) residential segregation. Prerequisite: permission of instructor.

Double course.

Mr. Formisano.

236. PROSEMINAR: THE FAMILY IN HISTORICAL PERSPECTIVE. Not offered, 1976-77.

Ms. Hareven.

EUROPEAN HISTORY - PERIOD COURSES

140. EUROPEAN HISTORY FROM THE "FALL" OF ROME TO THE PRESENT.

(See description under COURSES FOR FRESHMEN.) Mr. Lucas.

244. ENGLAND'S "OLD REGIME." Not offered, 1976-77.

The structure and possible causes of the peculiarities of English state and society, compared with continental Europe's from the Middle Ages to about 1800.

Full course.

Mr. Lucas.

245. INDIVIDUALISM, GROUP CONSCIOUSNESS AND ORGANIZATION, AND THE STATE IN "OLD EUROPE", 1550-1789. Not offered. 1976-77.

An examination of pre-French Revolutionary Europe as a corporative and customary political culture; a study of how that culture was altered by absolutism, militarism, mercantilism, early capitalism, modern science, and the requirements of the international system of European states; and appreciation of the social and ideological legacies of the ancient regime.

Full course.

Mr. Lucas.

246. THE FRENCH REVOLUTION OF 1789 AND THE COMPARATIVE STUDY OF REVOLUTIONS.

An analysis of old and new ideas of revolution, including ritual, resistance, reactionary restoration vs. innovation; of the "democratic" revolution; of the psychology, sociology, and social psychology of revolutionary behavior; and of the relevance of the French Revolution to twentieth century issues. Full course, Semester 2.

Mr. Lucas.

247. IN SEARCH OF HUMANITY: EIGHTEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

The "Enlightenment" and its critics: the scientific revolution, philosophical reformism, and early conservative romanticism. The emphasis is upon rival perceptions of man's psychological and social nature, history, and aesthetic and religious sensibilities as seen through great secondary treatments of the Enlightenment (which also introduces the student to various ways of doing intellectual history) and original sources: Hume, Beccaria, Rousseau, Condorcet, Kant, Burke, Savigny. Full course, Semester 1.

Mr. Lucas.

248. IN SEARCH OF HUMANITY: NINETEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

The elaboration of the "Enlightenment" by its heirs and critics. The emphasis is the same as in 247., but the focus shifts to an analysis of political and economic liberalism, Social Darwinism, racism, and "utopian" socialism in England and France followed by an analysis of nationalism, Marxism, positivism, old and new conservatisms, and the reassessment of the values and progress

of European civilization among principally Italian and German thinkers.

Mr. Lucas.

Full course, Semester 2.

251. IMPERIAL RUSSIA, 1825-1917. Not offered, 1976-77.

An outline of Russian development from the early nineteenth century to the collapse of the tsarist regime. The emphasis lies on political history with occasional exploration of literary and economic history as well.

Full course.

Mr. Von Laue.

252. NINETEENTH CENTURY EUROPE.

Lecture and discussion course centering around the problems and dilemmas of various European political societies as they responded to the tug of modernity during the century of European preeminence throughout the world.

Full course, Semester 1. Mr. Borg.

253. TWENTIETH CENTURY EUROPE.

Lecture and discussion course concentrating on the characteristic problems of Europe in a half century of war, economic convulsion, and political instability.

Full course, Semester 2.

Mr. Borg.

254. PROSEMINAR: WORLD WAR I AND EUROPE.

Full course, Semester 1. Mr. Borg.

255. MODERN GERMANY. Not offered, 1976-77.

An examination of the convulsive course of German history over the past century.

Full course. Mr. Borg.

256. REVOLUTIONARY RUSSIA, 1900-1953.

The course offers a survey of Soviet political history from the beginning of Bolshevism to the death of Stalin; it is the continuation of the course on Imperial Russia, 1825-1917. Full course, Semester 1. Mr. Von Laue.

EUROPEAN HISTORY - TOPICAL COURSES

246. THE FRENCH REVOLUTION AND THE COMPARATIVE STUDY OF REVOLUTIONS.

(See description under EUROPEAN HISTORY-PERIOD COURSES.)

Mr. Lucas.

247. IN SEARCH OF HUMANITY: EIGHTEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

(See description under EUROPEAN HISTORY-PERIOD COURSES.)

Mr. Lucas.

248. IN SEARCH OF HUMANITY: NINETEENTH CENTURY EUROPEAN INTELLECTUAL HISTORY.

(See description under EUROPEAN HISTORY-PERIOD COURSES.)

Mr. Lucas.

258. PROSEMINAR: EUROPEAN INTELLECTUAL HISTORY. Not offered, 1976-77.

A research seminar on authors not read in History 247. or 248.: prerequisite: successful completion of History 247. or 248. or its equivalent elsewhere, permission of the instructor.

Full course.

Mr. Lucas.

259. PROSEMINAR: TOTALITARIANISM.

A study of the nature of totalitarianism and of the origins, ideology, and operation of the German Nazi and Russian Soviet regimes.

Full course, Semester 2.

Mr. Borg.

260. THE NAZIS AND THE JEWS: THE HOLOCAUST UNIVERSE.

(See description under JEWISH HISTORY.) Mr. Rosenblum.

NON-WESTERN HISTORY COURSES A) FAR-EAST

114. CHINA TO 1800.

(See description under COURSES FOR FRESHMEN.)

115. CHINA, 1800 TO THE PRESENT.

(See description under COURSES FOR FRESHMEN.) Staff.

274. MODERN JAPAN, 1600-PRESENT.

A lecture and discussion course surveying the growth behind Japan's closed door, its development experience, and role as instigator of revolution in China and S. E. Asia. Comparisons will be made with contemporary China.

Full course, Semester 1.

Staff.

275. PROSEMINAR: ASIAN RADICALS.

A comparative study of radical leaders such as Mao, Ho Chiminh, Gandhi, Sukarno, and Japanese militarists. The course will focus on motivation, intellectual and ideological underpinnings, and techniques — especially of motivation; and an effort will be made throughout to apply western world social sciences to assess the efficacy of cross-cultural comparison. Some Asian history strongly suggested. Prerequisite: permission of instructor.
Full course, Semester 2.

278. SPECIAL TOPICS: AMERICAN—EAST ASIAN RELATIONS. Not offered, 1976-77.

A lecture and discussion course focusing on relations between the United States, China, and Japan, and with reference to S.E. Asia as a bone of contention among the three in the twentieth century. Beginning with the nineteenth century the course will deal thematically with such issues as xenophobia, imperialism, and competing world views. Background in either Asian or American history is suggested but not required. The course is open to freshmen with permission of the instructor. Full course.

279. LAW AND SOCIETY IN CHINA: PAST AND PRESENT.

Lecture and discussion course examining the way in which Chinese values are revealed in and upheld by the law, and the ways in which the law changes as Chinese society has been revolutionized. Materials to be used include legal novels, formal codes, and casebooks.

Full course, Semester 2. Staff.

B) AFRICA

180. THE HISTORY OF TRADITIONAL AFRICA.

(See description under COURSES FOR FRESHMEN.) Full course. Mr. Ford.

181. THE HISTORY OF MODERN AFRICA.

(See description under COURSES FOR FRESHMEN.) Full course. Mr. Ford.

280. BLACK AND WHITE IN GHANA.

The interaction of African and European cultures on the Gold Coast and in modern Ghana.

Full course, Semester 1.

Mr. Von Laue.

281. PROSEMINAR: GHANA, THE NKRUMAH YEARS.

Full course, Semester 2. Mr. Von Laue.

285. FORMAL AND NON-FORMAL EDUCATION AS AN AGENT OF SOCIAL CHANGE.

An investigation into the influence of education on class structure, occupation, and identity in Africa. Both European-oriented and non-formal curricula will be considered as a means of changing attitudes and aspirations among citizens in developing countries.

Full course, Semester 2. Mr. Ford.

C) RUSSIA

(See courses listed under EUROPEAN HISTORY.)

TOPICAL COURSES IN NON-WESTERN HISTORY

285. FORMAL AND NON-FORMAL EDUCATION AS AN AGENT OF SOCIAL CHANGE.

(See description under AFRICA.) Mr. Ford.

287. COMPARATIVE REVOLUTION: RUSSIA AND CHINA. Not offered, 1976-77.

Jointly taught seminar with limited enrollment: will explore the twentieth century revolutions in these two countries through a thematic approach. Prerequisite: Russian or Chinese history and permission of instructors.

Full course.

Mr. Von Laue. Staff.

288. DEVELOPMENT PROBLEMS.

The several dimensions of development and the reasons why the gap between developed and underdeveloped countries is widening will be explored. Among the disciplines drawn upon will be: geography, government, economics, and education. Problems analyzed will include — urban growth, land reform, unemployment, and government planning. Tanzania, China, Brazil, and other countries will be used as cases. (See also Geography 125.)
Full course, Semester 1. Mr. Ford, Mr. Berry, Ms. Enloe.

289. PROSEMINAR: COMPARATIVE WESTERNIZATION.

Not offered, 1976-77.

The seminar discussions will explore the diverse effects of western influence on Russia, China, and West Africa (Ghana), while at the same time evolving a pattern for meaningful comparison of modernization in these three polities.

Full course.

Mr. Von Laue.

JEWISH HISTORY

232. AMERICAN JEWISH HISTORY: FROM COLONIAL TIMES TO THE 1970'S. Not offered, 1976-77.

This course examines the broad sweep of the Jewish experience on the American scene, beginning in the colonial America of 1654, and continuing to portray the evolution of Jewish life and thought in the expanding American society of the nineteenth century, and in the light of the explosive developments of the twentieth century. Topics for analysis will include ethnic traditions, religious commitments, economic adjustments, cultural horizons, social tensions, and political orientations. Full course.

Mr. Rosenblum.

260. THE NAZIS AND THE JEWS: THE HOLOCAUST UNIVERSE. Not offered, 1976-77.

This course will investigate the origins, development, operational features, and fateful consequences of this most traumatic event in all human history. It will draw upon the abundance of historical, biographical, literary, and philosophical

sources that have become increasingly available in recent years.

Full course.

Mr. Rosenblum.

262. ANTI-SEMITISM IN ITS HISTORICAL PERSPECTIVE.

Not offered, 1976-77.

This course will consider the unique features of anti-Semitism that have set it qualitatively apart throughout the ages from other forms of virulent prejudices and group tensions. Its manifestations from pre-Biblical days through Greek, Roman, medieval, and modern times will be examined to determine the scope of its social, religious, economic, psychological, and political roots. The contemporary period will be investigated, with the dual purpose of updating its historical evolution, and also of considering the developments that are likely to eventuate in view of the unfolding world scene.

Full course.

Mr. Rosenblum.

263. MODERN JEWISH SOCIAL AND INTELLECTUAL HISTORY.

This course will survey the major events and developments that have shaped the course of modern Jewish history, from the enlightenment to the present time. Included in the scope of the course will be the stirrings of emancipation, the rise of Reform Judaism, the development of social movements, the growth of American Jewry, the emergence of Zionism, the origins of Anti-Semitism, the patterns of immigration, World War I, the rise of Nazism, World War II and the Holocaust, the post-war era and the establishment of Israel, and contemporary developments in the world Jewish community.

265. ZIONISM AND THE RISE OF ISRAEL.

This course will explore the intellectual and cultural roots of the Zionist movement in modern times, and the political and social

Zionist movement in modern times, and the political and social settings that witnessed its growth in the nineteenth and twentieth centuries. It will trace the historical steps that led from the conception of the Zionist idea to the growth of the Palestinian Yishuv, and then from the British mandate to the proclamation of independent statehood. Included in the scope of the course are the rise of Jewish nationalism, the birth of political Zionism, the contributions of Herzl and the other Zionist founders, the development of Arab nationalism, the Balfour declaration, the impact of Nazism, the socialist models, the institutional structure of the Yishuv, achieving independence, the war of liberation, Arab refugees, building a nation, developing a foreign policy, major social features of modern Israel, and contemporary issues.

Full course, Semester 2.

Full course, Semester 1.

Mr. Rosenblum.

Mr. Rosenblum.

266. JEWISH CULTURE AND CIVILIZATION FROM BIBLICAL TIMES TO THE EIGHTEENTH CENTURY.

A survey of Jewish ideas, literature, and institutions of the Biblical, Talmudic, and medieval periods.

Full course, Semester 1.

Mr. Goldsmith.

267. JEWISH CULTURE AND CIVILIZATION FROM THE EIGHTEENTH CENTURY TO THE PRESENT.

The Hassidic and Mussar movements; Enlightenment and Emancipation; Modern Hebrew and Yiddish literature; Reform, Orthodoxy, Conservatism, Jewish Socialism and Zionism; American Jewry and Israel.

Full course, Semester 2.

Mr. Goldsmith.

GENERAL HISTORY COURSES

294. THE WORLD AND I.

The objective of the course is to establish, from a historian's perspective, a meaningful link between the individual Clark student and the global world in which he/she lives; themes are selected from current world history, issue-oriented, and leading up to questions of culture, counter-culture, personal life style

and human values appropriate to the age. Lectures, discussion of assigned reading, term paper.

Full course, Semester 2.

Mr. Von Laue.

295. THE FUTURE, WAYS OF KNOWING AND SURVIVAL.

Not offered, 1976-77.

A lecture and discussion course, instructors (an historian and a geographer) alternate as lecturers; they will comment on each other's presentations and ideas, leading into class discussion. Students will write a variety of short papers and exercises, and keep a journal of their changing reactions to the course and the subject. Instructors and students will review the possibilities and limitations of "future study," practice trend projections, systems simulation, scenario preparation, visioning, and hopefully prepare a more positive and rational attitude toward the future. An upper division course, no prerequisites. Full course.

Mr. Von Laue, Mr. Kates.

297. SPECIAL PROJECTS.

Undergraduates, normally juniors and seniors, may construct an independent research course with an instructor of their choosing. The consent of the instructor must be obtained in advance.

Variable credit, Semesters 1, 2.

Staff.

298. DIRECTED READINGS.

Undergraduates, normally juniors and seniors, may design a directed readings course to consist of a sequence of structured readings on a given topic to be approved and directly supervised by an instructor.

Variable credit. Semesters 1, 2.

Staff.

299. JUNIOR HONORS SEMINAR.

This course attempts to teach students how to write analytical and synthetic research papers and to write them well, as well as to introduce students to the problems of studying history by learning about the aspirations, advantages, and disadvantages of "historicism."

Full course, Semester 2.

Mr. Borg, Mr. Lucas.

GRADUATE COURSES

300. DEPARTMENTAL SEMINAR. Not offered, 1976-77.

A survey of some major schools of historical study and of their methods, in search of a suitable historical approach to the contemporary scene.

Full course.

Staff.

AMERICAN HISTORY.

301. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815.

This seminar takes a historiographical approach to the literature in American history from the beginning of the colonial period until the end of America's second War of Independence.

Full course, Semester 1.

Mr. Billias.

302. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY SINCE 1815.

Major topics and themes, emphasis on historiographical essays. Full course, Semester 2. Mr. Story.

310. STUDIES IN EIGHTEENTH CENTURY AMERICAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term. Mr. Billias.

312. RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN REPUBLIC. Not offered, 1976-77.

This seminar deals with the origins of American political parties, the debate regarding the early party system, and a study of the process of nation building.

Mr. Billias.

315. SEMINAR: AMERICAN POLITICAL HISTORY.

Not offered, 1976-77.

U.S. Political History: Methods and Topics. Concentration on topics selected by instructor and students with special attention to interdisciplinary methods and the most recent works in political history.

Mr. Formisano.

320. SEMINAR: U.S. SOCIAL HISTORY.

Not offered, 1976-77.

The impact of urbanization and industrialization on the family.

Ms. Hareven.

321. STUDIES IN RECENT AMERICAN HISTORY.

Not offered, 1976-77.

Independent studies.

Variable credit.

Ms. Hareven.

322. SEMINAR: AMERICAN URBAN HISTORY.

Not offered, 1976-77.

The focus falls on the American adjustment to the urban industrial experience. Research will utilize original sources in Worcester and other New England towns.

Ms. Hareven.

325. STUDIES IN RECENT AMERICAN HISTORY.

Independent studies.

Variable credit.

Semester 2, Modular Term.

Mr. Campbell.

326. STUDIES IN AMERICAN CONSTITUTIONAL HISTORY.

Independent studies.

Variable credit, Semester 2, Modular Term. Mr. Campbell.

330. STUDIES IN AMERICAN THOUGHT AND CULTURE.

Independent studies

Variable credit. Semesters 1, 2, Modular Term. Mr. Koelsch.

335. STUDIES IN AMERICAN INTELLECTUAL HISTORY.

Independent studies. (See also Philosophy 335.) Variable credit. Mr. Beck.

EUROPEAN AND NON-WESTERN HISTORY

345. STUDIES IN EARLY MODERN EUROPEAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term.

Mr. Borg, Mr. Lucas.

350. STUDIES IN MODERN EUROPEAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term,

Mr. Borg, Mr. Von Laue.

355. STUDIES IN RUSSIAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term. Mr. Von Laue.

370. STUDIES IN CHINESE HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term. Staff.

380. STUDIES IN AFRICAN HISTORY.

Independent studies.

Variable credit. Semesters 1, 2, Modular Term.

Mr. Ford, Mr. Von Laue.

399. GRADUATE READINGS COURSE.

Variable credit. Semesters 1, 2, Modular Term. Staff.

400. THESIS RESEARCH.

Variable credit. Semesters 1, 2, Modular Term. Staff.

Interdepartmental and Non-Departmental

COURSES

ID & ND 122. FEMALE SEXUALITY AS REFLECTED IN JEWISH SOURCES.

Topics include family and marriage; love and sex; virginity and the bride; the wife and mother; women in high station and government; societal aberrations including adultery, divorce, widowhood. Subjects will be considered in their ancient and medieval settings with a view toward the influence that they exerted on contemporary attitudes.

Full course, Semester 2. Ms. Lieberman.

ID & ND 200. MARXIST PERSPECTIVES AND THE UNIVERSITY: A WORKSHOP-SEMINAR.

A critical examination of Marxist perspectives on the place of the university in higher education in advanced capitalist societies and in the liberal arts curriculum of the contemporary American university. Particular attention will be given to diversity of conceptualization and application. Seminar discussions and research will provide the intellectual basis for an accompanying workshop in academic program development whose goals will be the formulation of one or more proposals for a program in Marxist studies. Instruction will be by a multi-disciplinary team of Clark faculty, supplemented by extra-mural expertise. Intended primarily for the student possessing some introductory experience with Marxist thought; others should consult the coordinator for appropriate preparatory work prior to the beginning of classes. Limited to 20 students. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Kasperson (Coordinator).

ID & ND 213. HOW CLARK UNIVERSITY IS RUN.

After introductory reading about the nature of universities, students will meet with a variety of University officers, including Trustees, members of the Committee on Personnel, deans and the president, the University archivist, director of admissions, and also two prominent Worcester businessmen, and discuss with them the complex problems of running a University. The course is to serve as an opportunity for studying an academic institution at close range. Discussion, written reports, and a term paper. This course is recommended for freshmen and sophomores. Limited to 25 students.

Full course, Semester 1. Mr. Von Laue (Coordinator).

ID&ND 191 Perspectives in Biology and Medicine (Taught by Dr. F. Welsch)

Discussion of current issues in biology and medicine -problems and ethics of birth control, organ transplantation,
recombinant gene research, nutrition and health, supervision
by U.S. government, etc.





VPA 89. INTER-DISCIPLINARY CREATIVE WORKSHOP.

An inter-media group comprised of faculty and former students and functioning throughout the academic year. Students who have had training in film, video, art, or music, and who are ready to enter into creative projects may work within the programs of their own interest. The group presents experimental workshops as well as a full production. Prerequisite: permission of the instructor.

Variable credit, Semesters 1, 2.

International Development and Social Change

PARTICIPATING FACULTY

Leonard Berry, Ph.D., Program Co-Director and Professor of Geography, Dean of the Graduate School, Coordinator of

Richard B. Ford, Ph.D., Program Co-Director and Associate Professor of History

Saul B. Cohen, Ph.D., Professor of Geography, Director of the Graduate School of Geography, Adjunct Professor of Government and International Relations

Robert W. Kates, Ph.D., University Professor, Professor of Geography

Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of History

Cynthia Enloe, Ph.D., Associate Professor of Government and International Relations, Director of the Graduate Program

Robert C. Hsu, Ph.D., Associate Professor of Economics Ann T. Schulz, Ph.D., Associate Professor of Government and International Relations

Thomas G. Carroll, Ph.D., Assistant Professor of Education Stephen L. Feldman, Ph.D., Assistant Professor of Geography Richard A. Howard, Ph.D., Assistant Professor of Geography and Adjunct Assistant Professor of Biology

Douglas L. Johnson, Ph.D., Assistant Professor of Geography Sharon P. Krefetz, Ph.D., Assistant Professor of Government and International Relations

Onkar S. Marwah, Ph.D., Assistant Professor of Government and International Relations

Ann Seidman, Ph.D., Professor of International Development,

Charles Hays, M.D., Assistant Professor of International Relations (Affiliate)

PROGRAM

The Program in International Development and Social Change is a BA/MA offering combining both research and training activities.

The teaching program is designed to introduce students to the complex issues involved in international development, to introduce them to a range of research activities, as well as to prepare them for careers and participation in international fields. It will attempt to orient majors to the changing world in which we live and to the increasing role which developing societies play in the interdependencies of the world's social, economic, and political systems. The program also hopes to attract a wide range of non-majors in one or more of the courses, seminars, or

action research activities. It is also possible to work out a double major with one of the cooperating departments.

A new program in development, launched at a time of disillusionment and widespread doubt about progress in international development, requires special explanation. It does not seek to train agricultural specialists, highway design engineers, or sanitation system contractors. Nor do we expect the majority of our graduates to work for the established international agencies such as USAID, CARE, or the United Nations. Rather, we assume that graduates will acquire basic skills of economic and social analysis as well as an orientation toward development and social change. These skills and attitudes will be well suited for any number of careers in either the private or public sector which deal with developing areas of the world. The program also provides solid preparation for those who seek further training in graduate or professional schools.

To attain these skills, students should work within a combined graduate-undergraduate setting which blends the breadth of the liberal arts with the specialization of professional training. Thus, the curriculum combines existing courses, new cross-disciplinary courses, an internship, a basic research project, and an applied research activity.

The research program offers faculty, graduate students, and undergraduates opportunities to work individually and cooperatively in topics of concern related to international development and social change. Current research projects include Problems of the World's Least Developed Nations, the Continuing Problems of Drought and Development in West Africa, the Social and Economic Impact of Desertification Worldwide, and Environmental and Long-range Developmental Problems in Eastern Africa. In all this, we are concerned with the relationship between technological intervention and social change in the developing world. Associated with these collaborative research efforts are seminars, symposia, field internships, and summer activities.

The Program in International Development and Social Change expects students to:

- master basic skills including competence in a foreign language, quantitative skills, and techniques of economic and social analysis;
- attain an understanding of the development process in its political, economic, historical, and environmental aspects;
- develop an investigation/research approach to an actual problem and attempt to apply the growing body of theoretical knowledge in an internship experience;
- 4) wrestle with the problem of hammering out a philosophy of development;
- 5) pursue a career track, selected from one of three existing options — public administration, development planning, development education, or a modified or combined form of one of these tracks.

COURSES

1) Prerequisites: All students should make certain that prerequisites are completed. One prerequisite requires that students complete Principles of Economics (Economics 10. and 11.). If students have not done so already, they should take these courses as soon as possible. The second prerequisite is foreign language competence. Students should discuss with a faculty member the specific interests which they have for the program and on that basis, determine which language proficiency would be most helpful for them. Language proficiency can be demonstrated either through proven competence or course work equivalent. Students in consultation with their advisers may be able to develop programs that fit their particular needs.

2) Core Courses — the second category of courses offered in International Development will be core courses.

ID 125. DEVELOPMENT PROBLEMS.

An introduction to the study of development. The course will consider the historical evolution of the concepts of economic

growth and development; the nature of development; five alternative approaches to development ranging from conventional theories of capital intensive investment to more radical theories of labor intensive investments; and for a conclusion, an assessment of development policies of governmental and non-governmental organizations. Historical, geographic, and political considerations will receive special attention.

Full course, Semester 1. Mr. Ford, Mr. Berry.

ID 201. SENIOR SEMINAR.

Required of all majors, the course will have two purposes: to reflect on the previous course work as a summation activity; and to prepare individuals for the internships upon which they will soon embark.

Full course, Semester 1.

Mr. Ford, Staff.

ID 206. AUTOBIOGRAPHY WORKSHOP.

An anthropoligical inquiry into the process of personal growth and social change. Required of all majors, the course allows students to examine their preconceptions; the way people perceive problems and methods of solving them.

Half course, Semester 1.

Mr. Knos.

ID 210. ECONOMIC PLANNING.

This course will consider alternative approaches to planning in developing countries, drawing particularly on the experience of the African countries. It will focus on the use of planning to restructure the inherited pattern of resource allocation to attain more balanced, internally integrated, self-reliant economies; and consider how institutions may need to be reshaped to implement plans proposed.

Full course, Semester 1.

Ms. Seidman.

ID 298. READINGS IN INTERNATIONAL DEVELOPMENT.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

ID 299. RESEARCH IN INTERNATIONAL DEVELOPMENT.

Variable credit, Semesters 1, 2, Modular Term. Staff.

ID 302. RESEARCH THESIS.

Master's degree candidates will register for two courses, called Thesis Research, while working on their masters degree research thesis.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

ID 303. APPLIED PROJECT.

During the graduate year, degree candidates will also participate in an applied project to acquaint graduate students with the techniques of writing applied literature.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

ID 304. GRADUATE SEMINAR.

During the first semester of the graduate year, a seminar entitled "Political and Institutional Change" will consider the mechanics and techniques of change within bureaucratic or institutional settings.

Variable credit, Semester 1.

Staff.

ID 305. DIRECTED READINGS.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

ID 306. PHILOSOPHY OF DEVELOPMENT.

During the final semester of the graduate year, each student will be required to write a brief but meaty position paper on an individual rationale for development. A tutorial course.

Full course, Semester 2.

Mr. Ford, Mr. Berry, Staff.

In addition to the several formal courses, the Development Program sponsors a number of seminars, symposia, action projects, and student exchanges. Participation in these several activities is encouraged for majors.

Career Tracks with Suggested Courses

Majors in International Development and Social Change will take six courses in a particular field of specialization. In most cases, students will follow the pattern set out in one of three established tracks: development planning; development education; or public administration. In other cases, a student may design a course sequence, subject to approval by an appropriate faculty member, which either combines one of the above three tracks or creates a new focus. In every case, the area of concentration should be looked upon as an opportunity for students to link their interest in development with a focus in a specialized field.

For Resource Planning, choose from: Environmental Affairs 201, EA 202, Geog. 150, Geog. 157, Geog. 257, Geog. 268, Geog. 307.

For Economic Planning, choose from: Econ. 115, Econ. 176.

For Political Planning, choose from: Geog. 130, Geog. 230, Geog. 261, Geog. 270, Gov. 275, Gov. 291.

For Development Education, choose from: Geog. 205.1, Geog. 205.2, Geog. 206, Ed. 217, History 285, Ed. 252, Ed. 278.

For Public Administration, choose from:

Economics/Management - Econ. 115, Econ. 123, Econ. 126, Econ. 176, Econ. 207, Management 100, Management 211. Environmental Affairs/Science, Technology and Society - EA 210, Sociology 246.

Government - Gov. 103, Gov. 225. Gov. 275. Gov. 291. Gov. 295, Gov. 226, Gov. 236, Gov. 228.1, Gov. 235, Gov. 215.1, Gov. 106,

Gov. 228.3.

Jewish Studies

AFFILIATE FACULTY IN JEWISH STUDIES

Saul B. Cohen, Ph.D., Professor of Geography Walter Schatzberg, Ph.D., Professor of German, Coordinator for **Jewish Studies**

Herbert Rosenblum, Ph.D., Associate Professor of Jewish Studies (Affiliate)

Arnold Dashevsky, Ph.D., Assistant Professor of Jewish Studies (Affiliate)

Emanuel Goldsmith, Ph.D., Assistant Professor of Jewish Studies (Affiliate)

Joseph Klein, D.D., Lecturer in Biblical Literature Sarah Roth Lieberman, Ph.D., Lecturer in Jewish Studies Miriam Raviv, B.A., Lecturer in Hebrew

The following courses relating to Jewish Studies are offered in the 1976-77 academic year in various departments or as an interdepartmental discipline. For course descriptions please check the course listings within the departments. History 266 and 267 are designated as core courses and will be offered in alternate years. For further information concerning the Jewish Studies Program and to discuss the possibility of integrating Jewish Studies courses within various departmental majors, contact Mr. Schatzberg.

HEBREW LANGUAGE COURSES

(See Department of Foreign Languages and Literatures.)

Hebrew 11. ELEMENTARY HEBREW.

Full course, Semester 1.

Full course, Semester 2. Ms. Raviv.

Hebrew 12. INTERMEDIATE HEBREW.

Full course, Semester 1.

Full course, Semester 2. Ms. Raviv.

Hebrew 130. ADVANCED HEBREW.

Full course, Semester 1.

Full course, Semester 2. Ms. Raviv.

HEBREW LITERATURE COURSES TAUGHT IN ENGLISH

(See Department of Foreign Languages and Literatures.)

Hebrew 118. EXEGESIS OF THE BIBLICAL BOOK OF GENESIS.

Full course, Semester 1. Mr. Klein.

Hebrew 185. TRENDS AND VALUES IN YIDDISH LITERATURE.

Full course, Semester 1. Mr. Goldsmith.

JEWISH CULTURE AND CIVILIZATION

History 266. JEWISH CULTURE AND CIVILIZATION FROM BIBLICAL TIMES TO THE EIGHTEENTH CENTURY.

Mr. Goldsmith. Full course, Semester 1.

History 267. JEWISH CULTURE AND CIVILIZATION FROM THE EIGHTEENTH CENTURY TO THE PRESENT.

Mr. Goldsmith. Full course, Semester 2.

HISTORY

History 263. MODERN JEWISH SOCIAL AND INTELLECTUAL HISTORY.

Full course, Semester 1. Mr. Rosenblum.

History 265. ZIONISM AND THE RISE OF ISRAEL.

Full course, Semester 2. Mr. Rosenblum.

GEOGRAPHY

Geography 188. IDEOLOGY AND ENVIRONMENT: SHAPING THE LAND OF ISRAEL.

Full course, Semester 1. Mr. Cohen.

SOCIOLOGY

Sociology 226. SOCIOLOGY OF AMERICAN JEWRY.

Full course, Semester 1.

Mr. Dashevsky.

INTERDEPARTMENTAL AND NONDEPARTMENTAL

ID & ND 122. FEMALE SEXUALITY AS REFLECTED IN JEWISH SOURCES.

Full course, Semester 2.

Ms. Lieberman.

Linguistics

COURSES

114. GENERAL PHONETICS AND PHONEMICS.

Phonetics is the scientific study of all the physical aspects of speech. Phonemics treats of the systematic nature of the use of the physical means to form the communication systems we call languages. This course is concerned with language in general, so as to provide the theoretical framework necessary for describing the pronunciation system of any language. It includes the fundamentals of articulatory and acoustic phonetics, and it proceeds to general structural phonemics and some of its modifications and the theoretical questions raised by them. Prerequisite: permission of the instructor.

This course, or its equivalent, is prerequiste to Linguistics 260 (Linguistics and Language Learning). The instructor is prepared to suggest alternative ways of meeting the prerequisite, however. Given in alternate years.

Half course, Semester 1.

Staff.

115. MAN AND LANGUAGE.

An introduction to the analysis of the nature and function of human language and its role in the life of individuals and societies. The approach is interdisciplinary, with attention to the points of view of philology, contemporary linguistics, anthropology, psychology, and philosophy. The lectures focus on such questions as: What is language? What is the relation between language and thought? To what extent does our language determine how we perceive the world? Why and how do languages change? What other functions does language serve besides communication? Why do we not have a world language? How have linguists achieved an objective, scientific analysis of linguistic systems? What are the limitations of such a science?

The course is designed for the general student who wishes to know more about the nature of the uniquely and universally human institution of language, and for the student or teacher of English or foreign language who is interested in the light which linguistic science can throw upon the relations between his/her field and other areas of life and knowledge. Prerequisite: permission of the instructor.

Full course, Semester 1.

Staff.

260. LINGUISTICS AND LANGUAGE LEARNING.

An exploration of various fields of linguistic study from the point of view of their relevance to foreign language learning. Intended to meet the needs of two classes of students: (1) prospective foreign language teachers who already have advanced mastery of their foreign language and (2) other students with a more general interest in the nature of language, whose primary orientation may be toward related problems in, for example, psycholinguistics or sociolinguistics.

Approaching language as behavior and as system, the course directs attention to the levels ranging from the culture system to the system of the language as a whole and finally to its subsystems: lexical, grammatical, and phonological.

Offered in alternate years. Prerequisite: Linguistics 114., which may be taken either prior to or concurrently with this course, and for which substitutes may be available if the instructor is consulted well in advance; permission of the instructor is required. (See also Education 260.)
Full course, Modular Term.

285. SEMANTICS.

This course studies meaning. It deals with and classifies the changes in the meanings of words and phrases, and it analyzes simile and metaphor. It also deals with the parametric organization of the semantic system. Some attention is paid to

the relation between thought and language. Offered at the discretion of the Department of English. Prerequisite: permission of the instructor.

Full course, Semester 1.

Mr. Macris.

287. INTRODUCTION TO LINGUISTICS.

This course is devoted to the theory and methodology of descriptive linguistics. It deals with the nature and function of language, the relation between speech and writing, phonology, morphology, syntax, lexicology, the sociocultural setting of language, the contact of linguistic systems, and the problems of "correctness." Emphasis is placed upon the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor.

Full course, Semester 1. Mr. Macris.

288. COMPARATIVE AND HISTORICAL LINGUISTICS.

Not offered, 1976-77.

This course examines the theory and methodology of comparative and historical linguistics. It focuses on linguistic geography, linguistic borrowing, the causes of linguistic change, the comparative method and reconstruction, and problems in analyzing languages with and without a literary tradition. Emphasis is placed upon the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Macris.

Education 288. SOCIOLINGUISTICS.

Refer to course description under Education 288.
Ms. Morocco.

Education 336. LANGUAGE AND COGNITIVE DEVELOPMENT.

Refer to course description under Education 336.

Ms. Morocco.

Education 338. BILINGUAL EDUCATION.

Refer to course description under Education 338. Staff.

English 280. HISTORY OF THE ENGLISH LANGUAGE.

Refer to course description under English 280. Mr. Macris.

English 282. SEMINAR: OLD ENGLISH. Not offered, 1976-77.

Refer to course description under English 282. Mr. Macris.

English 284. SEMINAR: MODERN AMERICAN ENGLISH.

Refer to course description under English 284.

Mr. Macris.

English 286. SEMINAR: LINGUISTIC APPROACHES TO LITERATURE. Not offered, 1976-77.

Refer to course description under English 286.
Mr. Macris.

English 295. TEACHING ENGLISH AS A SECOND LANGUAGE.

Refer to course description under English 295.

Mr. Macris.

Philosophy 185. PHILOSOPHY OF LANGUAGE.

Refer to course description under Philosophy 185. Staff.

Management

DEPARTMENT FACULTY

W. Warner Burke, Ph.D., Professor of Management, Department Chairman

Harold T. Moody, Ph.D., Associate Professor of Economics and Management

Mark S. Plovnick, Ph.D., Assistant Professor of Management Richard L. Hopkins, M.A., Dean of COPACE, Senior Lecturer in Management

Daniel R. Kilty, Ph.D., Lecturer in Management Rudolph Winston, D.B.A., Lecturer in Management

The department offers undergraduate courses in management which may serve as electives or as part of an expanded major in another area, and a graduate program leading to the Master of Business Administration degree. The undergraduate option and the graduate degree program both are small and flexible, designed to allow the participation of students in a wide variety of educational experiences.

UNDERGRADUATE PROGRAM

Undergraduate courses emphasize the basic concepts and techniques of management, and may serve to prepare a student for entrance into M.B.A. programs upon graduation, as well as to supplement the excellent liberal arts education at Clark. These courses do not constitute a major within the University, but can serve either as electives, as a part of other major programs, or as a preprofessional program leading toward a management degree (see Preprofessional Programs section of this bulletin). Interested students should consult with the faculty advisers and with a member of the Department of Management.

THE GRADUATE PROGRAM

The M.B.A. program has unique features which should be evaluated by prospective students in the light of their interests and preferences. First, only the most important topics in the study of management are included: marketing, finance. information and control systems, behavioral science, and organizational change. These topics are applied to a wide variety of organizations. Second, to complete the graduate program, students must create a part of their program in conjunction with the faculty, administration, and other students. The department regularly schedules courses and seminars only in the above five fields. Thus, workshops, special courses, and other forms of educational projects must be continually created by the students. Experts with both academic and practicing backgrounds are brought into the program as necessary to meet these changing teaching demands. Third, the department is not solely committed to the study of business organizations. The faculty believes the study of management applies to all organizations, non-profit as well as profit. Consequently, the theoretical core of each field of study is emphasized, and descriptive institutional material is used to particularize the core. The mix of students in the program including current and future managers of educational, health, religious, government, and business organizations, forces the faculty to focus on the universal principles of managing. Fourth, graduate courses and seminars are scheduled in the late afternoons and evenings. These hours do not mean it is an evening program for part-time students, with a separate program in the daytime for full-time students. It is one program, with both part- and full-time students attending the same courses, seminars, and special projects. This aspect of the program contributes a unique atmosphere in which students learn from each other's wealth of different practical and academic experience.

A graduate program of 10 full courses (10 credits) is

required, which can be completed in one academic year. As prerequisites for these courses, a basic knowledge in 9 subject areas must be demonstrated. These prerequisites are not waived on the basis of previous academic or other experiences, because of the great variability in coursework and memory span of students. Although inconvenient for some, the required demonstration of knowledge results in a better graduate education for all. Individual study and the taking of waiver examinations is urged, the department offers the subjects as half-semester courses for those who would prefer them.

ADMISSION TO THE PROGRAM

All undergraduate majors are given equal weight in the admission decision. Persons interested in the program should request a Bulletin from the department. Those wishing to apply should complete the accompanying application form and return it to the department with the application fee. When all supporting documents have been received, the application is considered by the admissions committee, which meets monthly through the academic year. Admission is for September or February.

COURSES

Management courses offered each semester vary according to student interest. Management 100. is a prerequisite for all other management courses.

100. INTRODUCTION TO MANAGEMENT AND ADMINISTRATION.

A broad survey of the nature of organizations, in general, and management, in particular. Course emphasizes a consideration of the manager as a person and distinguishes between the management of things and the management of people. Course also covers basic principles of management and administration (planning, control, organization, and human relations). Full course.

202. INTRODUCTION TO COMPUTER MODELING OF ORGANIZATIONS.

The purpose of this course is to make students aware of the possibility and usefulness of representing some aspects of human behavior in mathematical terms; to formulate specific kinds of activities, and to manipulate and solve them using the computer. Necessary FORTRAN is included.

Half course.

Staff.

203. INTRODUCTION TO STATISTICS.

An introduction to decision-making when the future is unknown, using Beyes' criteria. Some statistical inference is also included. Half course.

205. INTRODUCTION TO ACCOUNTING.

Elements of generally accepted accounting procedures are presented for several major types of institutions, such as business, government, educational, and health. The accounts are examined as a tool for managerial decision-making. Half course.

206. INTRODUCTION TO INFORMATION SYSTEMS.

Provides an introduction to the systems approach and some applications of computers in different types of organizations. Half course.

209. INTRODUCTION TO MARKETING.

An introduction to the consumer and consumer behavior, promotional techniques, pricing, and the mixture of services provided by the organization.

Half course.

Staff.

210. INTRODUCTION TO CAPITAL INVESTMENT AND FINANCE.

The capital investment decisions of all organizations require long-range planning decisions. Simple techniques are reviewed, such as present value and cost-benefit analysis. Half course.

211. INTRODUCTION TO BEHAVIORAL SCIENCE AND ORGANIZATIONAL BEHAVIOR.

Considers the nature of human behavior in an organizational context — the relationship of the organization as a system with the human as a system. Course covers human personality, group dynamics, intergroup relations, and principles of organizational structure.

Full course.

Staff.

310. BEHAVIORAL SCIENCE.

The study of the nature of groups and behavior of people within groups. The focus is on the individual in various organizational settings, the interaction of the individual within a group, the processes of group concept formulation, the interrelations among cultural assumptions and behavior in organizations, the effect of technology on behavior, and other topics in the field. Full course. Staff.

311. SEMINAR IN BEHAVIORAL SCIENCE.

Variable credit.

Staff.

320. ORGANIZATION DEVELOPMENT.

The study of organizational change with emphasis on theories of organization change, organization diagnosis, data analysis, and planned social intervention. Course considers the applicability of the behavioral sciences for organizational change and improvement. Consideration will be given to what constitutes organizational effectiveness. Staff.

Full course.

321. SEMINAR IN ORGANIZATION DEVELOPMENT.

Variable credit.

Staff.

330. MARKETING THEORY AND RESEARCH.

The study of the relationships between an organization and the users of its product. Topics include the identification and estimation of the number and type of potential users, the determinants of user behavior, organizational decisions concerning output mix, and strategies when faced with incomplete information, pricing policies (including zero price for free services provided by some non-profit organizations), output quality, and advertising strategies. Full course. Staff.

331. SEMINAR IN MARKETING THEORY AND RESEARCH.

Variable credit.

Staff

340. CAPITAL BUDGETING AND FINANCE.

The study of the special long-range problems involved in the choice of capital investment and its financing. Most investment projects are interrelated and decisions must be made with only partial information; but traditional investment decision rules do not allow for these realities. These problems are studied, as well as the development and changes in managerial talent, and the time sequence of investments. Also of interest in this field is an understanding of the budgeting process in the behavior of individuals within organizations, whether business or non-profit. and their effects on managerial investment decisions. Full course. Staff.

341. SEMINAR IN CAPITAL BUDGETING AND FINANCE.

Variable credit.

Staff.

350. INFORMATION AND CONTROL SYSTEMS.

The study of the interaction between the creation of rules governing the gathering and processing of information about the organization and its environment, and their subsequent effect on managerial decisions. This includes the study of computerized information systems.

Full course. Staff.

351. SEMINAR IN INFORMATION SYSTEMS.

Variable credit.

Staff.

380. to 390. Series. APPLIED MANAGEMENT SEMINARS AND COURSES.

The educational program for these seminars and courses is generally unstructured, responding to current interests. Much student work is self-created, with a small number of students working on related topics; in other instances, courses are arranged by the department where a wide student interest exists. Advanced seminars may be taken concurrently. Variable credit: Staff.

Mathematics

DEPARTMENT FACULTY

Robert W. Kilmoyer, Jr., Ph.D., Associate Professor of Mathematics, Department Chairman

John F. Kennison, Ph.D., Professor of Mathematics Stanley J. Poreda, Associate Professor of Mathematics* Bhama Srinivasan, Ph.D., Associate Professor of Mathematics* John S. Stubbe, Ph.D., Associate Professor of Mathematics Edward Cline, Ph.D., Assistant Professor of Mathematics David E. Tepper, Ph.D., Assistant Professor of Mathematics Mayer Humi, Ph.D., Associate Professor of Applied

Mathematics (Affiliate)

James Perry, Ph.D., Assistant Professor of Computer Science (Affiliate)

Norman Sondak, D.Eng., Professor of Mathematics (Affiliate) *on Sabbatical Leave, 1976-77.

UNDERGRADUATE PROGRAM

The department offers several courses of a general nature which may fulfill the needs of students at all levels who are interested in mathematics either as a discipline in itself or as a foundation for further study in other disciplines.

A variety of elementary mathematical needs can be met by means of the Math Clinic and Tutorial (10.). Students work at their own pace and choose a program suited to their needs. The clinic may be taken as a single- or double-strength course in either the first or second semester. Math 11. may be used as a preparation for calculus and may be taken independently of Math

The calculus courses (12. and 16.) are normally open to freshmen. However, students with a weak background are advised to take Math 10. or Math 11. first. Diagnostic tests are available for students who are uncertain about which courses to take. Math 12. is the standard first year calculus course while Math 16. is the more theoreticially-oriented Honors Calculus. It is possible to omit Math 12, or 16, and begin with 13, (Intermediate Calculus) if sufficient achievement is shown on the advanced placement examination given in high school. If this is done, a student is automatically credited with Math 12. Students may start Math 12. in either the fall or the spring. A calculus course is strongly advised for students in the sciences and all students seriously interested in mathematics.

Students who need a basic course in computer programming might take Math 118., which could be followed by Math 119. or 120. for applications. Linear algebra has many applications in the social sciences and Math 113. is an introduction to this subject. Math 160. is designed to help students acquire an understanding of concepts through problem-solving. Students who wish to experience some of the beauty of mathematical reasoning at an elementary level can take Math 124., 125., 115., or 140.

The Major in Mathematics

The prospective major is urged to visit the department and to discuss fully the different approaches to the major, which the department has made available. There are programs in pure mathematics, actuarial science, mathematics/computer science, mathematics/education, and mathematics/management. The objectives and requirements for these programs are outlined below.

Options Available within the Department:
PURE MATHEMATICS
APPLIED MATHEMATICS
ACTUARIAL SCIENCE
MATHEMATICS/MANAGEMENT
MATHEMATICS/EDUCATION
MATHEMATICS/COMPUTER SCIENCE

Although the following descriptions of each option are brief, we hope they indicate the nature of the program involved. We encourage students to call on the department for additional information.

PURE MATHEMATICS: The pure mathematics major at Clark is designed for two groups of students. The first includes the liberal arts student interested in the broad spectrum of mathematical thought and not wishing to limit himself/herself to the more well-defined vocational objectives of the other majors. Such a student will find sufficient flexibility in the program to meet his/her needs. The second group consists of those students planning graduate work in mathematics.

The mathematics requirements for this major are 10 semester courses including mathematics 12. (or the equivalent), 13., 113., and two semesters of a 200-level mathematics course (usually 214, or 215.). It is further expected that each major will have a culminating mathematical experience serving to give direction to his/her studies. This requirement will normally be satisfied by an advanced course; either a reading course or an advanced undergraduate course (making a total of three semesters of 200 level courses) or a graduate course. Alternatively, the requirement may be met by an honors project, work study, interdepartmental readings, or other such experiences upon departmental approval, which should be obtained before the senior year. For the student planning to enter graduate school, the department strongly recommends that both the 214, and 215, sequences and at least one graduate course be taken.

The pure mathematics major has a science minor requirement. The objective is that the student be involved in a science to a sufficient depth to ensure that some of the uses of mathematics are illustrated. Each student will take four semester courses in one of the science departments, at least one of which uses mathematics heavily. Introductory courses which are designed for non-majors will not be counted towards the minor. Ordinarily, minors from chemistry, physics, and Science, Technology and Society are acceptable without approval. Certain minors from economics, geography, music, philosophy (related to the study of mathematical truth), psychology, and sociology are acceptable with departmental approval.

APPLIED MATHEMATICS: The applied mathematics major is designed for students interested in the application of mathematics to science or social sciences. The major emphasizes analysis for the physical sciences and probability and statistics for the life and social sciences. In addition to those students interested in the applied mathematics major (either alone or as a component of a dual major), it is hoped that the list of courses below will be useful to science students designing a minor in mathematics.

The major will require 10 semester hours of mathematics including mathematics 12., 13., 113., 118. (or the equivalent), 145., and either 216. or 217. The remaining required courses should be from among the following: 100., 119., 120., 153., any 200-level course, and certain additional Consortium courses upon departmental approval. It is strongly recommended that students interested in physical sciences take 216. while those interested in life and social sciences take 217. The student interested in graduate school should consider the other 200-level courses, especially 214.

The minor requirement consists of a substantial sequence of courses in a mathematically oriented science. The requirement is five semester courses which must not include introductory courses for non-majors. Minors from chemistry, physics, and Science, Technology and Society are acceptable without approval. Certain minors from biology, economics, geography, psychology, and sociology are acceptable with departmental approval. The criterion will be that a large proportion of the courses involve the application of mathematical techniques.

ACTUARIAL SCIENCE: Actuarial science could be described as the science of finance and insurance. A program of study in this field requires a firm grounding in mathematics, but involves problems which cut across the interface of statistics, economics, demography, law, and business management as well.

The requirements for this major consist of courses in mathematics, management, and computer science which are relevant to actuarial science. Specifically: Mathematics 12., 13., 118., 119., 153., 217., English 18. or an approved substitute, plus four units to be chosen from the following: Mathematics 100., 120., 247., Computer Science 102., 103., Management 205., 206., 210., Economics 10., or certain other courses with department approval.

Additional courses in computer science, economics, and management are recommended as a supplement to this major. Mathematics 160., Problems Seminar, is also available for those students who wish to prepare for specific actuarial examinations. Please consult with the department for further details regarding actuarial science.

MATHEMATICS/MANAGEMENT: The objective of this program is to make available to the mathematically inclined student the opportunity to prepare for (1) a career in business management, (2) graduate study in operations research, or (3) graduate work in a Master of Business Administration program.

Course requirements: Mathematics 12., 13., 217. At least two units from the following: Mathematics 100., 119., 120., 153., 247. Computer Science: Mathematics 118., or C.S. 101., and at least one additional unit from the following: C.S. 102., 103., 140. Management Science: At least one unit from the following: Management 205., 206., 209., 210., 211. Economics: At least two units, not to include courses which are principally mathematical; English 18.

It is also recommended that as a supplement to this major, students take Mathematics 153. and 247. In computer science, C.S. 103. is also strongly recommended. A student anticipating further study in an M.B.A. program should attempt to take all the management courses listed above and possibly one or more graduate courses in management. Finally, students are encouraged to acquire a reading knowledge of at least one foreign language.

MATHEMATICS/EDUCATION: The Mathematics/Education Program is designed for the student preparing to teach in the secondary school. This program consists of (1) major in mathematics, containing courses relevant to students' future needs in teaching, (2) a minor in education, and (3) additional courses which will help to integrate students' involvement in mathematical education with other areas of knowledge.

The specific course requirements for this major are as

The major in mathematics consists of nine units.
 Mathematics 12. (or the equivalent), 113., 217., 125., 150.

are required and the remaining courses may be chosen from Mathematics 115., 124., 140., and any 200-level course. All majors are required to take at least one unit of a 200 level mathematics course.

2) The minor in education consists of Psychology 130., Education 290., 217., and 272.

3) Additional course requirements: (a) an introductory laboratory course in the life or physical sciences, (b) four semester courses in any of the following areas: economics, English, foreign language, geography, geology, government, history, linguistics, management, philosophy, psychology, sociology, Science, Technology and Society, Visual and Performing Arts.

The minor for this program is designed to meet the present

certification requirements in Massachusetts.

MATHEMATICS/COMPUTER SCIENCE: This program enables the student to major in mathematics with emphasis on computer science and its applications, for example, in operations research. It provides a firm foundation for further work or graduate study in computer science. This major should also be seriously considered as a possible dual major with any field which draws upon computer science as a method of analysis.

Course requirements: Mathematics 12., 13., 217., 118. or Computer Science 101., Mathematics 119., 120., Computer Science 102., 103., 140., Mathematics 100. or 247. In addition, an advanced course in computer science (at Clark or W.P.I.) or an advanced project must be undertaken. Consult department for approval.

GRADUATE PROGRAM

The department offers courses leading to the degrees of Master of Arts and Doctor of Philosophy

The requirements for the M.A.* are: (1) 10 full courses at least eight of which must be on the 300 level. These courses usually include one or two full courses of Mathematics 330. the writing of the master's thesis. They may include seminars and reading courses; (2) the basic courses, Mathematics 316., 318, and 325, must be included. Each of these requirements may be waived for a student presenting evidence satisfying the department of his or her knowledge of the material in question; (3) a master's thesis and (4) an oral examination.

A student working toward the Ph.D. degree and electing to omit the M.A. thesis and M.A. oral examination will be recommended for the M.A. degree upon successful completion

of the Ph.D. preliminary examination.

The requirements for the Ph.D.* follow the general requirements of the graduate school. The Ph.D. preliminary examination is usually given orally, but may be written under certain circumstances. Students should consult with their advisers by November of their second year. Students entering with a master's degree should discuss the examination immediately. Failure to take this examination at the appropriate time may result in the department not recommending a student for continued support. Scholarships, graduate instructorships, new courses are subject to final approval by the Graduate Board.

The language requirement will be considered to have been fulfilled if the candidate can demonstrate sufficient linguistic ability to carry on effective research in his or her field. The department's decision will depend heavily upon the recommendation of the candidate's adviser.

*All candidates for the M.A. and Ph.D. degrees in mathematics will be required to serve as teaching assistants or as assistants in the computing center as part of the work for their degrees.

COURSES

10. MATH CLINIC AND TUTORIAL.

Individual conferences, diagnostic tests, programmed exercises, and projects are used to develop mathematical skills, concepts,

and confidence. This course does not involve classes, but relies on a one-to-one approach. Mathematics 10. may be taken more than one semester as long as the total number of full course credits for 10. and 11. does not exceed two. Mr. Kennison, Mr. Stubbe. Semesters 1, 2.

11. INTRODUCTION TO MATHEMATICS.

This course is designed to introduce topics in finite mathematics and can also serve as an exposure or review of those topics which are necessary for calculus. Typical areas to be covered include algebra, theory of equations, geometry, trigonometry, and probablility. Staff.

Full course, Semesters 1, 2, Modular Term.

12. CALCULUS.

Introduction to differential and integral calculus of one variable: sequences and series, essential for further study in mathematics as well as for the study of applications in the natural sciences. Not open to students who have taken Mathematics 15. or 16. One year long. May be started Semester 1 or Semester 2. Full course, Semesters 1, 2, Modular Term. Mr. Cline, Staff.

13. INTERMEDIATE CALCULUS.

This course assumes the knowledge of one variable calculus and deals with functions of several variables. Topics covered include partial derivatives, line and surface integration, and sequences and series. Applications of these topics to complex analyis, vector analysis, and Fourier analysis are considered. Prerequisite: Mathematics 12., 16., or equivalent. Full course, Semesters 1, 2.

15. PROBABILITY AND CALCULUS FOR THE SOCIAL AND LIFE SCIENCES. Not offered, 1976-77.

A course designed to acquaint the student with the foundations of calculus and probability. Emphasis will be on applications which will be drawn from the fields of biology, economics, etc. The differential and integral calculus will be discussed and applications will include descriptive statistics. Full course. Staff.

16. HONORS CALCULUS.

This course is designed for math majors and others who are inclined towards a theory-oriented approach to calculus. Like Mathematics 12., is is also an introduction to differential and integral calculus of one variable, but there is more emphasis on understanding the concepts involved. Full course, Semesters 1, 2. Staff.

88. DIRECTED READINGS IN MATHEMATICS.

Variable credit.

89. SPECIAL PROJECTS IN MATHEMATICS.

Variable credit.

Staff.

100. MATHEMATICAL MODELS. Not offered, 1976-77.

This course introduces the student to the concept of a mathematical model and its application to the solution of real problems. Examples will include application in the areas of finance, transportation, production scheduling, economics, and population theory. The course will include analysis of models constructed by students. Full course. Staff.

113.1. MATRIX ALGEBRA.

The topics included in the one-semester sequence 113.1, 113.2 are basic to most applications of mathematics. The first section covers solutions of systems of linear equations by Gaussian elimination, matrices, determinates, inversion, and vector spaces.

Half course, First half, Semester 1.

Staff.

113.2. LINEAR ALGEBRA.

Topics covered include bases, dimension, linear transformations, eigenvalues, and canonical forms. Prerequisite: 113.1 or permission of instructor. Half course, Second half, Semester 1. Staff.

115. INTRODUCTION TO ALGEBRAIC SYSTEMS.

This course is designed to provide a gradual introduction to abstract mathematical thought and to familiarize the student with the language in which more advanced mathematical and scientific theories are stated. Groups, rings, integral domains, and fields are discussed. This theoretical material is applied to derive elementary results from number theory and to discuss the problems of finding roots to polynomials and the trisection of the angle.

Full course, Semester 2.

Staff.

118. FORTRAN FOR SCIENCE STUDENTS.

This is a half-semester introductory FORTRAN programming course designed especially for students intending to pursue a major in the mathematically-oriented sciences or for those who possess a fair amount of mathematical sophistication. Although there are no prerequisites, students should have taken about three years of math in high school and should be able to handle elementary algebraic expressions and problems. This course will introduce the basic elements of FORTRAN language and an overview of computer programming and data processing in general. The course is essentially an accelerated version of Computer Science 101.

Half course, First half, Semester 1.

Mr. Stubbe.

119. ELEMENTARY NUMERICAL ANALYSIS.

This is a half-semester introductory course in numerical analysis and the application of computers to the solution of certain numerical problems. Topics covered will include interpolation, error analysis, and interactive methods. Prerequisite:

Mathematics 12. and either Mathematics 118. or Computer Science 101. or permission of instructor.

Half course, Second half, Semester 1.

Mr. Stubbe.

120. LINEAR PROGRAMMING.

This course will cover linear programming, its applications, and numerical algorithms. The simplex method, game theory, and Markov processes will be included. The linear algebra needed will be covered in the course.

Semester 1.

Mr. Tepper.

124. INTRODUCTION TO GEOMETRY. Not offered, 1976-77.

This course starts with revisiting Euclidean geometry, then leads, via Desargues' and other theorems, to projective geometry. Some transformations of the plane are considered. Finally, some finite geometries are studied. One of the aims of this course is to show the beauty of the deductive approach in mathematics. Prerequisite: equivalent of Mathematics 11. Full course.

125. THEORY OF NUMBERS. Not offered, 1976-77.

This is an introduction to number theory, and also aims to train students to understand mathematical reasoning and to learn to write proofs. The topics covered include the unique factorization of integers as products of primes, the Euclidean algorithm, congruencies, Fermat's Theorem, and Euler's Theorem (and some applications of the latter, e.g. magic squares). Prerequisite: equivalent of Mathematics 11. Full course.

135. PATTERN RECOGNITION.

An introduction to sequential methods in the classifications or labeling of a group of objects on the basis of certain subjective requirements. Decision-making will be done on the computer

either in the recognition of English characters or in the recognition of certain basic structures taken from the game of Go. Prerequisite: FORTRAN.

Full course, Semester 2.

Mr. Stubbe.

140. INTRODUCTION TO MATHEMATICAL LOGIC.

Not offered, 1976-77.

The propositional calculus and the first order predicate calculus, which consists of a language and a method of proving statements made in that language, will be constructed and discussed predominately in relation to mathematical questions such as consistency and completeness.

Full course.

145. ELEMENTARY DIFFERENTIAL EQUATIONS.

An introduction to elementary techniques and concepts for solving and applying differential equations. The equations discussed appear in biology, economics, the physical sciences, and other fields. They give mathematical models describing exponential growth, exponential growth with bound, vibrating springs, planetary motion, and other similar situations. Prerequisite: Mathematics 13. or permission of instructor. Full course, Semester 1.

150. SEMINAR IN MATHEMATICAL METHODS AND MATERIALS.

Methods and materials are taught: (1) to acquaint the student with various methods of approach for theories on teaching math on the secondary school level, and (2) to give the student a prestudent-teaching experience. While conducting mini-courses in math with South High School and the Alternative School, the seminar discusses articles that are concerned with teaching math, the relationship of the theories to the practice, the problems that are encountered within the mini-courses, and methods of teaching math. Various field trips and guest speakers will be included.
Full course, Semesters 1, 2. Mr. Perry, Mr. Tepper.

153. ACTUARIAL SCIENCE.

This course deals with the mathematics of finance and its applications. Compound interest, life contingencies and population theory will be among the topics covered. The course is designed to introduce the student to the material included in the third and fourth (F.S.A.) actuarial exams. Prerequisite: Mathematics 12. or permission of instructor.

Full course. Semester 2. Mr. Tepper.

160. PROBLEMS SEMINAR.

This course emphasizes the creative use (as opposed to the mere acquisition) of mathematical tools. Students should develop their mathematical resourcefulness by pursuing one or more of the "problem areas" presented. The problems shall be fairly specific yet open-ended and of interest to students at varying levels and with differing mathematical tastes. The course should be good preparation for actuarial examinations, for Mathematics 200. and for students who eventually wish to construct and analyze mathematical models in, for example, the social sciences

Full course, Semesters 1, 2.

Mr. Kennison.

200. ADVANCED PROJECTS.

This course is intended for students pursuing advanced projects that involve mathematics. These projects might arise from mathematics or from some other discipline. Signature required. Variable credit.

214. MODERN ANALYSIS.

Not offered, 1976-77.

Topological and metric methods are introduced and studied. These generalize and explain many ideas first encountered in calculus. These methods will be applied to study differentiation, integration and convergence, among other topics, in greater depth. Prerequisite: Mathematics 13. or 113.1 or permission of instructor.

Full course.

Staff.

215. MODERN ALGEBRA.

This course introduces the theory of groups, rings, fields, integral domains, canonical forms, and related topics. The treatment will be axiomatic with emphasis on the construction of the proofs of certain theorems. Prerequisite: 113. or permission of instructor.

Full course, Semesters 1, 2.

Mr. Kilmoyer.

216. INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE. Not offered, 1976-77.

This is an introductory course designed for the undergraduate science major or graduate student preparing for Mathematics 316. Cauchy's theorem, Power series, Laurent series, the residue theorem, harmonic functions, and physical applications such as problems in two dimensional flow are among the topics to be covered. The object is to convey understanding of the classical theorems of complex analysis as opposed to rigorous proofs of their most general statements.

Full course.

Staff.

217. PROBABILITY AND STATISTICS.

This course is designed to introduce students to the theory and applications of probability and statistics. Techniques used to solve problems will be stressed along with the associated mathematical theory. Among the topics covered are combinatorial methods, postulates of probability, stochastic processes, probability densities, mathematical expectation, sampling distributions, estimation, hypothesis testing, regression, and correlation. The syllabus for this course includes most of the material recommended for those preparing for the second (F.S.A.) actuarial examination.
Full course, Semesters 1, 2.

221. CALCULUS OF VARIATIONS. Not offered, 1976-77.

This course presents the historical development and applications of the extremely useful mathematical technique most frequently referred to as the calculus of variations. The main tool used in this course is calculus. Some of the classical problems that were solved using this technique will be illustrated, as well as the modern-day applications such as optimal control theory. Prerequisite: Mathematics 13. Full course.

244. DIFFERENTIAL EQUATIONS. Not offered, 1976-77.

First order and linear differential equations are covered. Various methods of solution are stressed, i.e. series, integrating factors, variation of parameters, etc. An introduction to partial differential equations and boundary value problems is discussed with some applications to fluid and thermal dynamics.

Full course.

Staff.

245. APPLIED MATHEMATICS.

The development of orthogonal functions, Fourier Series, Legendre Polynomials and Bessel functions and their use in solving heat conduction and vibration problems, the Laplace Transfrom. Corequisite: Mathematics 13.

Full course, Semester 2.

Mr. Stubbe.

247. OPERATIONS RESEARCH.

Linear models, linear programming, the simplex method, sensitivity analysis, network analysis, and dynamic programming will be covered in this one-semester course. Prerequisites: Mathematics 12. and 113. Full course, Semester 2. Mr. Tepper.

290. TOPICS IN ANALYSIS.

Content will be changed from year to year.

Variable credit

Semesters 1, 2, Meduler Term

Semesters 1, 2, Modular Term.

Staff.

250. APPLIED GROUP THEORY. Not offered, 1976-77.

The course will give an introduction to the theory of group representation (both Lie and Finite) and apply these results to detailed study of examples from physics and related fields, e.g. solid state physics, to rotation group and angular momentum, symmetry and elementary particals and applications of Lie theory to system theory. Prerequisites: Math 113 and 244. (Some background in Quantum Mechanics will be helpful.)
Full course.

Staff.

292. TOPICS IN TOPOLOGY.

Point set topology, metrization theorems, extension theorems will be covered during the first half. During the second half, algebraic topology will be introduced. Topics in homotopy and homology theory will be covered.

Full course, Semester 1.

Mr. Tepper.

293. TOPICS IN GEOMETRY.

Content will be changed from year to year.
Variable credit.
Semesters 1, 2, Modular Term.

Staff.

298. HONORS I.

Staff.

299. HONORS II.

Staff.

300. SETS AND TOPOLOGY. Not offered, 1976-77.

The foundations of set theory and the relationship of various fundamental axioms, such as Zorn's lemma and the Axiom of Choice. Point-set topology as far as the Hahn-Mazurkiewicz Theorem.

Full course. Staff.

316. FUNCTIONS OF A COMPLEX VARIABLE.

This course deals with the theory of functions of one complex variable that possesses a derivative. It is intended that the student in this course be brought to the point where he or she can comprehend the existing unsolved problems as well as the historical development and applications of this field. Among the most advanced topics are conformal mapping, entire functions, geometric function theory, approximation theory, and Banach spaces of analytic functions. Prerequisites: Mathematics 214. or permission of instructor.
Full course, Semesters 1, 2.

318. FUNCTIONS OF A REAL VARIABLE.

Not offered, 1976-77.

The real number system, topology, measure theory, and related topics. Signature required.

Full course.

Staff.

321. ALGEBRAIC TOPOLOGY. Not offered, 1976-77.

Introduction to algebraic topology including fibrations and coverings, homotopy, and homology. The relation with category theory will be emphasized. Prerequisites: Mathematics 215. and 318. or permission of instructor.

Full course.

Staff.

325. ADVANCED MODERN ALGEBRA.

Group theory, including the Sylow theorems, free groups, finitely generated abelian groups. Categories and functors, Ring theory, including factorization in commutative rings, polynomial

rings, modules over a p.i.d., duality, tensor products. Fields and Galois Theory, including field extensions, finite fields, cyclotomic fields, separability, the fundamental theorem of Galois theory, and the general equation of degree n. Linear algebra, including canonical forms of a matrix, and bilinear forms. If time permits, the Wedderburn structure theorems for Artinian rings. Prerequisite: Mathematics 215.

Full course, Semesters 1, 2. Mr. Cline.

326. SELECTED TOPICS IN COMPLEX ANALYSIS.

Topics selected from the theory of univalent and multivalent functions, geometric function theory, zeros of polynomials, and extremal polynomials. Prerequisite: Mathematics 316. or permission of instructor.

Full course.

Staff.

327. FUNCTIONAL ANALYSIS.

Full course.

Staff.

330. MASTER'S THESIS.

Full course.

Staff.

335. SELECTED TOPICS IN ALGEBRA.

Prerequisites: Mathematics 325. or permission of instructor. Full course. Staff.

uii course.

341. DIFFERENTIAL EQUATIONS.

Ordinary differential equations, theory, and techniques of solutions. Partial differential equations. Fourier transform, distributions, and their applications.

distributions, and their applications.

Staff.

358b. CATEGORY THEORY.

Introduction to the basics of category theory.

Full course. Staff.

376. REPRESENTATION THEORY OF FINITE GROUPS.

Prerequisite: Mathematics 325. and permission of instructor.

Full course. Staff.

381. SEMINAR IN COMPLEX VARIABLES.

Full course.

Staff.

382a. SEMINAR IN ABSTRACT ANALYSIS.

Full course.

Staff.

383. SEMINAR IN ALGEBRA.

Full course.

Staff.

384. SEMINAR IN CATEGORY THEORY.

Full course.

Staff.

390. READINGS IN MATHEMATICS.

Reading of the mathematical literature related to the student's

research program. Full course.

Staff.

391. RESEARCH IN MATHEMATICS.

Direction of the Ph.D. dissertation.

Full course. Staff.

392. SEMINAR IN DIFFERENTIAL GEOMETRY.

The derivative — a reformulation, the spaces L(E^p,F), the exterior algebra, topological and differentiable manifolds, the tangent bundle, integration on chains, the classical theorems of Green and Stokes from the differential viewpoint, derivations, the Lie derivative, Sard's Theorem, and transversality. This

course is open to undergraduates who have had Mathematics 13. and 113. (or permission of instructor).

Full course, Semesters 1, 2.

Staff.

Music

(See Department of Visual and Performing Arts.)

Philosophy

DEPARTMENT FACULTY

Robert N. Beck, Ph.D., Professor of Philosophy, Chairman Albert A. Anderson, Ph.D., Associate Professor of Philosophy Gary E. Overvold, Ph.D., Associate Professor of Philosophy Walter E. Wright, Ph.D., Associate Professor of Philosophy* Patrick G. Derr, M.A., Assistant Professor of Philosophy Gilbert S. Markle, Ph.D., Associate Professor of Philosophy (Affiliate)**

*On leave of absence, Semester 2, 1976-77.

**On leave of absence, 1976-77.

UNDERGRADUATE PROGRAM

The department offers courses both to students who wish to broaden their intellectual perspective by tracing relations among the various fields of knowledge and to those who wish to major in philosophy.

The major consists of at least eight courses, including three from Level II,* and five from Level III.* A course from Level I* is normally a prerequisite to the major, but does not constitute part of it. Students will concentrate in one of three branches at Level III, with a minimum of three courses in one branch and one from each of the other branches. All majors are required to have one course in logic. To insure some experience in autonomous learning, each student is required to take at least one seminar. For those who are motivated to undertake substantial independent research, the department offers an honors program consisting of the preparation of a thesis, a comprehensive written examination, and an oral defense.

In addition to the core major, each student will be required to achieve competence in another discipline. This can be done by fulfilling the requirements for a double major or by completing six courses in related fields. In consultation with the adviser, the student selects four courses in one discipline (three must be above the introductory level) and two courses in other areas. It is recommended that preprofessional majors complete the third year level in at least one foreign language.

The following table of course distribution summarizes the requirements and options for philosophy majors.

*Level II courses have numbers 100-119; Level II courses, 120-129; Level III courses, 130-190; and research courses in Level III, 200-240.

LEVELI

Problems of Philosophy Personal Values Introduction to Logic Science and Human Values

LEVEL II

History of Ancient Philosophy History of Renaissance and Modern Philosophy Kant and the Nineteenth Century History of Contemporary Philosophy

LEVEL III

A. Value Theory

Philosophy Related Fields

Problems of Ethics English

Aesthetics Foreign Languages and

Social Philosophy Literatures

Philosophy of Religion Visual and Performing Arts Philosophy of Law Sociology

Philosophy of Education
Theory of Value
Seminars in Philosophy
Advanced Topics in Philosophy
Government
Government

B. Metaphysics

Philosophy Related Fields
Metaphysics History

Epistemology Psychology
Philosophy of Mind Sociology

Existentialism Foreign Languages and

Kant and the Nineteenth Century Literatures

Kierkegaard and Nietzsche History of American Philosophy Seminars in Philosophy Advanced Topics in Philosophy

C. Theories of Knowledge (Science, Logic)

Philosophy

Epistemology
Symbolic Logic
Phenomenology
Philosophy of Science
Philosophy of Logic
Philosophy of Social Science

Philosophy of Language Science, Technology and

Seminars in Philosophy Society

Advanced Topics in Philosophy

COURSES

100. PROBLEMS OF PHILOSOPHY.

Nature and method of philosophy. Application of philosophical method to contemporary personal and social problems. Detailed analysis of some typical problems in various fields of philosophy. Limited to freshmen.

Full course, Semester 1. Mr. Anderson, Mr. Derr.

101. INTRODUCTION TO LOGIC.

Logic as philosophy and practice. An introduction to the meaning of logical reasoning with a study of its principles and methods. An investigation of the philosophical presuppositions of logic.

Full course, Semester 2. Mr. Overvold.

105. PERSONAL VALUES.

Exploration of philosophical approaches to the fundamental human value problems such as truthfulness, sexual integrity, love, violence, war, and death. The connection between personal value choices and ethical theories will be studied. Limited to freshmen.

Full course, Semester 1. Mr. Wright, Mr. Beck.

110. PROBLEMS OF PHILOSOPHY.

See description under Philosophy 100. Not open to freshmen. Full course, Semester 2. Mr. Beck.

111. SCIENCE AND HUMAN VALUES.

Theoretical and practical issues concerning the interrelations between science and human values. Values in scientific method, technology and values, pure and applied sciences, science and ethical relativism. Views of man in natural and social sciences and their connections with values and methodology. Preference to freshmen.

Full course, Semester 2. Mr. Derr.

121. HISTORY OF ANCIENT PHILOSOPHY.

The origins of philosophical thought in the West with emphasis on the early Greeks, Plato, and Aristotle. Examination of classical theories of man, society, and nature providing background for later philosophical reflection.

Full course, Semester 1. Mr. Anderson.

123. HISTORY OF RENAISSANCE AND MODERN PHILOSOPHY.

Major thinkers and philosophical movements from the beginning of the modern period in Descartes through Hume. The two great trends in modern thought — Continental Rationalism and British Empiricism — will be examined in particular regard to their implications for, and effects upon, our contemporary view of the world. Prerequisite: one full course in philosophy. Full course, Semester 2.

124. KANT AND THE NINETEENTH CENTURY.

Trends in philosophy during this period considered as a background for understanding recent philosophy. Philosophers to be studied may include Fichte, Hegel, Schopenhauer, Nietzsche, Marx, Engels, and Comte. Prerequisite: two full courses in philosophy (Philosophy 123. is recommended). Half course, First half, Semester 1. Mr. Wright.

125. HISTORY OF CONTEMPORARY PHILOSOPHY.

An investigation of the major types of philosophical thought distinctive to recent philosophy: Pragmatism, Logical Positivism, Ordinary Language Philosophy, Existentialism, and Phenomenology. Emphasis upon each as a coherent perspective upon experience with a focus on the style and methodology of each view. Prerequisite: one full course in philosophy (Philosophy 123. or 124. is recommended).

Full course, Semester 1.

Mr. Overvold.

INTERMEDIATE COURSES

141. PROBLEMS OF ETHICS.

Consideration of important ethical theories to acquaint students with the problems and scope of ethics and to aid them in the formulation of an ethical outlook. Not open to freshmen.

Full course, Semester 1.

Mr. Beck.

142. SOCIAL PHILOSOPHY.

Principles underlying social structure and functions. Examination of the goals, purposes, norms and ideals of social process, and the relation of that process to the individual good. Not open to freshmen.

Full course, Semester 2. Mr. Beck.

145. EXISTENTIALISM.

A study of the major philosophers in twentieth-century
Existentialism with a focus on their redefinition of man in terms
of his "lived world" and his nonrational capacities. Prerequisite:
two full courses in philosophy.
Full course, Semester 1.

Staff.

146. KIERKEGAARD AND NIETZSCHE.

Investigation of the roots of contemporary existential thought in the nineteenth century through the analysis of major writings by Soren Kierkegaard and Friedrich Nietzsche. Emphasis on their doctrines of knowledge, existence, and man. Prerequisite: one full course in philosophy.

Full course, Modular Term. Mr. Overvold, Mr. Wright.

149. AESTHETICS.

Representative theories of the nature of the arts (literature, drama, music, and visual arts), the creative process, aesthetic experience, and art criticism such as those of Aristotle, Nietzsche, Collingwood, Fischer, Dewey, Langer, Sartre, and Arnheim, Prerequisite: one full course in philosophy. Full course, Semester 2. Mr. Anderson.

150. PHILOSOPHY OF RELIGION.

The nature of religion as revealed by the examination of representative forms of religious experience. Emphasis is placed on the effect of contemporary knowledge on the understanding of the religious dimension. Prerequisite: one full course in philosophy.

Full course, Semester 2.

Mr. Wright.

151. PHILOSOPHY OF LITERATURE.

Philosophical approaches to poetry, drama, and the novel through consideration of issues such as truth in literature, the writer and society, the nature of imagination, literary style, and criteria for criticism. Prerequisite: permission of instructor. Full course, Modular Term. Mr. Anderson.

153. HISTORY OF AMERICAN PHILOSOPHY.

Not offered, 1976-77.

Survey of important philosophical ideas in America with emphasis on their relationship to the American experience. Prerequisite: one full course in philosophy. Mr. Beck. Full course.

155. PHILOSOPHY OF SCIENCE I.

An introduction to certain problems of epistemology and metaphysics, cast into the terms and context of twentiethcentury science. The questionable "ontological status" of theories is the principal point of focus. Prerequisite: one full course in philosophy.

Full course, Semester 1.

Mr. Derr.

156. PHILOSOPHY OF SOCIAL SCIENCE.

A dialectical examination of naturalistic and phenomenological approaches to social reality. The concepts to be examined include: behaviorism, consciousness, functionalism, cultural relativism and determinism, rationality, values, reductionism, and holism. Prerequisite: one full course in philosophy. Full course, Semester 2. Mr. Derr.

160. SYMBOLIC LOGIC.

A basic course in symbolic logic with stress on principles of deductive rigor. Some consideration of the philosophical implications of logic. Topics to be discussed include: sentential calculus, predicate calculus, Tarski's definition of truth, selected metatheorems, and Henkin's completeness proof for the first order predicate calculus. Prerequisite: permission of instructor. Full course. Semester 2. Staff.

ADVANCED COURSES

171. KANT.

Immanuel Kant viewed as a synthesis of the traditions of Continental Rationalism and British Empiricism. Prerequisite: two full courses in philosophy, including Philosophy 123. Full course. Staff.

172. PHILOSOPHY OF MIND.

A critical examination of the "nature" or concept of mind. Related issues to be considered are: mind-body relationship, the identity theory of mind/brain, the thesis of the dualism of mind and matter, and other themes that involve the philosophical examination of psychological phenomena. Prerequisite: two full

courses in philosophy, preferably including at least one intermediate or advanced philosophy course. Full course, Semester 2. Mr. Overvold.

175. METAPHYSICS.

Clarification of the nature of metaphysical thinking and views of representative philosophers on the nature of space, time. causality, matter, force, self-identity, mind, body, and freedom. Prerequisite: two full courses in philosophy. Full course, Semester 2. Staff.

177. CONCEPTS OF THE SELF.

An investigation of several perspectives on the nature of the human self. The course will deal with the writings of such thinkers and philosophers as Plato, Aristotle, Descartes, Hume, Heidegger, Strawson, Ornstein, and Castaneda. Emphasis on group discussion and interaction. Prerequisite: two full courses in philosophy.

Full course, Semester 1.

Mr. Wright.

180. EPISTEMOLOGY.

The study of epistemology is, broadly, the study of the nature of knowledge. Within this very general heading are a host of specific topics and from that group this course will focus on the interrelations among belief, knowledge, evidence, proof, truth and also will consider the problem of skepticism. Prerequisite: two full courses in philosophy.

Full course, Semester 2.

Mr. Overvold.

185. PHILOSOPHY OF LANGUAGE.

An examination of the concepts of reference, truth, meaning, translation, rationality, objectivity, linguistic relativism and determinism, intentionality, and linguistic universals, in light of traditional philosophical problems about the relations between language and reality. Prerequisite: two full courses in philosopy. or permission of instructor.

Full course, Semester 2.

Mr. Derr.

188. THEORY OF VALUE.

Definitions of "value"; psychological and social conditions of different values; function of value judgments; nature of standards and their role in criticism — in art, science, morals. Foundations of the normative disciplines, i.e., logic, ethics, aesthetics. Prerequisite: two full courses in philosophy including a course in one of the following areas: logic, ethics, or aesthetics.

Full course, Semester 2.

Mr. Anderson.

RESEARCH IN PHILOSOPHY

200. ADVANCED TOPICS IN PHILOSOPHY.

Group discussion, individual tutorials and independent research in areas of philosophy. The independent research involves a topic of each student's choice within the designated area. Prerequisite: where appropriate, completion of regular department course in the area; two full courses in philosophy; and instructor's permission. Offerings vary each semester. Topics include: Husserl, Philosophy of Law, Existentialism, German Philosophy, Social Philosophy, Philosophy of Language, Greek Philosophy, Aesthetics, Philosophy of Logic. Variable credit. Staff.

201. SURSEMINAR: RESEARCH AND WRITING IN PHILOSOPHY.

Prerequisite: permission of instructor. Half course. Mr. Beck.

202. SURSEMINAR: PHILOSOPHICAL JOURNALS.

Prerequisite: permission of instructor. Half course. Mr. Beck.

203. SURSEMINAR: TEACHING IN PHILOSOPHY.

Prerequisite: permission of instructor.
Full course. Staff

204. SURSEMINAR: READINGS IN PHILOSOPHY IN GERMAN.

Prerequisite: permission of instructor.
Full course. Mr. Wright.

220-240. SEMINARS IN PHILOSOPHY.

Advanced studies of topics of central importance to philosophy, such as the philosophy of Whitehead, Spinoza, Plato, Hegel, the nature of the *a priori*, the problem of justice, the nature of truth, phenomenology, the philosophy of mind, the philosophy of law. Offerings vary each year; those for 1976-77 are listed below. Prerequisite: four full courses in philosophy or permission of instructor.

Staff.

225. PHENOMENOLOGY.

Full course. Mr. Overvold.

227. PHILOSOPHY OF RELIGION.

Full course. Mr. Wright.

290. PHILOSOPHY OF EDUCATION.

Full course. Mr. Beck.

299. HONORS IN PHILOSOPHY.

Advanced individual study of philosophical problems. Honors includes the preparation of an acceptable thesis and a comprehensive examination. Prerequisite: permission of the department. Normally a one-year program involving two full courses. Variable credit.

Semesters 1, 2. Staff.

335. STUDIES IN AMERICAN INTELLECTUAL HISTORY.

Independent studies. (See also History 335.) Variable credit.

Semesters 1, 2, Modular Term. Mr. Beck.

Physics

DEPARTMENT FACULTY

Harvey Gould, Ph.D., Associate Professor of Physics, Department Chairman

Roy S. Andersen, Ph.D., Professor of Physics Christoph Hohenemser, Ph.D., Professor of Physics

John A. Davies, Ph.D., Associate Professor of Physics

Roger P. Kohin, Ph.D., Associate Professor of Physics*
Albert M. Gottlieb, Ph.D., Assistant Professor of Physics and

Adjunct Assistant Professor of Chemistry
Robert L. Goble, Ph.D., Visiting Assistant Professor of Physics

and Science, Technology and Society

Edward L. O'Neill, Ph.D., Professor of Physics (Affiliate)
Jerald A. Weiss, Ph.D., Professor of Physics (Affiliate)

Thomas H. Keil, Ph.D., Associate Professor of Physics (Affiliate)

*on leave 1976-77.

THE CURRICULUM

The academic program of the Department of Physics serves to provide instruction in physics for students having a wide

variety of needs or backgrounds in science and in technology. The department's offerings range from courses accessible to students who have no previous training in science and who seek an elementary introduction in the discipline, to courses at the research frontier addressing topics of current importance to the professional physicist. Included in the curriculum, in addition to the introductory level courses, are several more advanced courses not having extensive prerequisites. Also included are apprenticeship courses in which undergraduate and graduate students having appropriate backgrounds can participate actively with the faculty in research projects. Completing the departmental offerings are programs leading to the Bachelor of Arts degree, with a number of optional areas of specialization. and to the Master of Science and Doctor of Philosophy degrees. Formal classes (excluding readings and special topics) fall into six categories, as listed below: 1) Courses for Non-scientists.

These courses are designed to impart an appreciation and a degree of literacy in the physical sciences. They acquaint students with the nature of scientific inquiry and inform them of the impact of science in the contemporary world. These courses are essentially non-mathematical, requiring only limited use of geometry, trigonometry, and algebra at the high school level. Included are Physics 1. and 2. and Astronomy 1.

2) Introductory Courses for Science Students.

These courses are designed to provide the foundation for all students intending to do advanced work either in physics or in a discipline requiring a background in physics. First year courses, Introductory Physics and Classical Physics, together with a laboratory course, can be used to meet the physics requirement for biology and chemistry majors and students in the premedical program. Second year courses, Quantum Physics and Statistical and Thermal Physics or their tutorials, continue this introductory sequence and are prerequisite to the more advanced courses. 3) Advanced Undergraduate Courses

These courses extend the background developed in the introductory courses and prepare students for independent work, for graduate studies, or for a post-graduate career in physics or a related field. These courses include Electricity and Magnetism, Modern Physics, Classical Theory of Fields, Quantum Mechanics, and Statistical Mechanics. Courses at the 200 level are not normally open to students until they have completed the physics core curriculum described below.

4) Laboratory Courses.

These courses meet the needs of a variety of students from the introductory level to the beginning graduate level. The Introductory Laboratory, Physics 19., meets the laboratory requirement of the biology, chemistry, and premedical programs but any more advanced laboratory may be substituted. Physics 19. and 129. are required for all physics majors. Laboratory courses designed for science majors from a variety of fields include the Optics and Electronics Laboratories. More advanced laboratory work is available in Physics 188., 219., 231., and 233. 5) Basic Graduate Courses.

These courses form the background for research in all areas of physics and are required for Ph.D. candidates. They are Physics 301., 303., 305., 309., and 310.

6) Specialized Graduate Courses.

These courses extend the basic graduate courses to the research frontier and are numbered 311. or higher. Students specializing in particular areas may choose those courses relevant to their interests. The courses are normally given when student demand warrants.

THE UNDERGRADUATE MAJOR

Undergraduate physics majors may choose any one of five programs of study: (1) general physics, (2) experimental physics, (3) mathematical physics, (4) biophysics, and (5) technology assessment. Each program consists of a common core curriculum, normally to be completed by the end of the sophomore year, and an area curriculum which defines each

student's specialization. Both the core and area curricula include courses in related fields.

I) Core Curriculum

This curriculum consists of a two-year survey of classical quantum and statistical physics with the associated laboratories and two years of mathematics. Physics majors normally are expected to complete this curriculum in their sophomore year. The core curriculum consists of the following courses:

	nequired	UIIILS	
1)	Classical Physics, Physics 12.	2	
2)	Introductory Laboratory, Physics 19.	1/2	
3)	Calculus, Mathematics 12.	2	
4)	Quantum Physics, Physics 113. or 114.	1	
5)	Statistical and Thermal Physics, Physics 123. or 124.	1	
6)	Intermediate Calculus, Mathematics 13.	2	
7)	Electronics and Instrumentation Laboratory, Physics 129	. 2	

Total 10-1/2

Units

Particularly well-prepared freshmen may receive advanced placement by passing an examination given by the appropriate department, and may move directly into the second-year courses. Students will not receive credit for courses skipped but may count them towards their core requirements. Interested students should consult the departmental undergraduate adviser. II) Area Curricula

Majors must choose one of five area programs prior to the beginning of their senior year. The rationale and requirements of

the five area programs are as follows:

1) General Physics: This program is designed for students who wish to study physics as a liberal art and who do not intend graduate study in physics. The program features a maximum freedom of choice and is excellent preparation for professional schools, teaching, business, and a variety of interdisciplinary graduate areas.

Required

Units

a.	Physics Core	10-1/2
b.	Physics 164. and 174.	2
C.	Mathematics above Mathematics 13.	2
d.	Chemistry	2
e.	Related areas: science teaching, computer science, history of science, philosophy of science, Science, Technology and Society, or other areas approved by	
	the undergraduate adviser.	6
	Total	22-1/2

2) Experimental Physics: This program is designed for students who may wish to pursue graduate study in physics or a closely related area, and who have significant desire and talent to do serious experimental work. A principal feature of the program is the requirement of a two-semester experimental

research project.

Required

a.	Physics Core	10-1/2
b.	Physics 164, and 174.	2
C.	Physics 231.	2
d.	Mathematics above Mathematics 13.	2
e.	Chemistry	2
f.	Related areas: computer science, philosophy of science),
	logic, biology, Science, Technology and Society, or	
	other areas approved by the undergraduate adviser.	4

3) Mathematical Physics: This program is designed for students who may wish to pursue graduate study in physics or a related area, and who have significant desire and talent to work with advanced mathematical techniques. A principal feature of the program is the requirement of considerable course work in

mathematics and logic.

	Required	ınıts
a.	Physics Core 10	-1/2
b.	Physics 164., 174., and 201. or 205.	4
C.	Mathematics: algebra, complex variables, differential	
	equations, and modern analysis or applied mathematics	. 4
d.	Philosophy of science, or logic	2

e. Related areas: chemistry, computer science, and Science,

Technology and Society, or other areas approved	
by the undergraduate adviser.	2
Total	22-1/2

4) Biophysics: This program is designed for students who wish to approach life-science studies through a firm grounding in the physical sciences. The program is appropriate as a preparation for medical school, and for a variety of graduate programs in the life sciences. A principal feature of the major is a required capstone course in biophysics.

	Required		Units
a.	Physics Core		10-1/2
b.	Physics 164. or 174.		1
C.	Chemistry: inorganic, organic, and physical		5
	Biology		4
e.	Biochemistry		1
			1
		Total	22-1/2

5) Technology Assessment: This program is designed to provide students with an adequate basis for conducting physical, economic, and value assessments of selected technological systems. The goals of the major are similar to the major in Science, Technology and Society, but feature more extensive work in physical science.

	nequired	Units
a.	Physics Core	10-1/2
b.	Mathematics beyond Mathematics 13.	1
C.	Physics 164. and 174.	2
d.	Science, Technology and Society	3
e.	Related social science: economics, government and	
	geography	4
f.	Related science: chemistry or biology	2
	Total	22-1/2

Undergraduate Honors

A qualified undergraduate in any of the major options above is encouraged to participate in the physics honors program. During the junior and senior years, honors students conduct an experimental or theoretical research project under the guidance of a faculty member. This work is submitted to the department as an honors thesis. Recommendation for a degree with honors in physics is determined by the quality of each thesis and the performance of students in an oral defense of their thesis. An honors candidate must maintain an average of B- in physics, chemistry, and mathematics courses. Students may gain credit for honors work by registering for Physics 231. or 232.

GRADUATE PROGRAM

The Department of Physics offers the Master of Arts and Doctor of Philosophy degrees in physics, and jointly with the Department of Chemistry, a Ph.D. in chemical physics. Departmental research is concentrated in the experimental and theoretical study of condensed matter with emphasis on phase transitions.

At entrance, graduate students are given a placement examination which tests their knowledge of undergraduate physics. A student failing this examination may be required to take a remedial program before entering fully into the graduate program, and may be asked to fulfill the requirements of the M.A. before proceeding to the Ph.D.

To receive the Ph.D., students must, in addition to satisfying the University residence and course requirements, pass with a grade of B or better, the basic graduate courses Physics 301., 305., 309., and 310., and two units of Physics 303. To qualify for Ph.D. research, students must pass four oral examinations in the subject matter of the basic graduate courses and an additional comprehensive oral examination. Students must also pass at least one graduate course in a subject other than physics, demonstrate literacy in a foreign language and computer programming, and complete a dissertation based on an original piece of research. Students entering with advanced standing and transferable credit are encouraged to demonstrate their proficiency in core graduate courses through examination.

To receive the M.A. students must satisfy the University residence and course requirements, pass four units of the basic graduate courses, Physics 301., 305., 309., and 310., one unit of Physics 303., and pass two related oral examinations. They must also complete a thesis based on an original piece of research.

Graduate students in both the M.A. and Ph.D. programs are required to obtain supervised teaching experience either as a teaching assistant or a teaching fellow in the department or

elsewhere if approved by the department.

Those interested in further information on research opportunities in the department should request the brochure "The Graduate Program and Research in Physics at Clark." Those desiring more detail on graduate requirements and their timing should request a copy of "The Physics Graduate Student Handbook." Both are available from the department chairman.

Applicants for admission should know what various forms of financial aid are available, and that the department considers provision of such aid an important responsibility. Application forms for admission and financial aid may be requested from the department chairman.

COURSES

Astronomy 1. EXPLORING THE UNIVERSE.

Refer to course description under Astronomy.

Full course, Semester 1. Mr. Andersen.

1. PHYSICS FOR ARTISTS, POETS, AND PHILOSOPHERS.

A semester introduction to the history, methodology, and achievements of physics and its social and cultural influences. The course will stress modern ideas of space and time, Einstein's theory of relativity, current theories of cosmology, and quantum theory. Mathematical tools necessary are high school algebra and geometry. Three class meetings and one laboratory per week. Open to freshmen.

Full course, Semester 2.

Mr. Andersen.

2. THE PHYSICS OF EVERYDAY EXPERIENCE.

A semester introduction to the basic physical concepts necessary for a fundamental understanding of our everyday observations of the physical world, and the nature of discovering, reasoning, and concept-formation in the physical sciences. Topics will include the physics of hearing and seeing, matter in motion, heat, electricity and magnetism, the nature of matter, and a study of man's place in the physical universe. The course is directed towards the non-scientifically oriented student. Although recent advances in science and technology will be discussed, the emphasis in Physics 2. is a fundamental understanding of everyday experience in contrast to Physics 1. in which the emphasis is on developments in physics in the twentieth century. Three lectures per week plus an open, informal laboratory.

Full course, Semester 2.

Mr. Gottlieb.

11. INTRODUCTORY PHYSICS.

A non-traditional introductory course designed for students majoring in science. This course stresses simplicity and self-consistency of physical models and mathematical laws in explaining a variety of phenomena. Topics will include relativity, statistical and quantum physics, in addition to mechanics, electricity and magnetism, heat and optics. Although calculus is not a prerequisite, Physics 11. is a rigorous and challenging preparation for advanced courses in the sciences. Together with Physics 19., Laboratory, (see below) it satisfies the requirements for majors in biology, Science, Technology and Society, and for students in the pre-medical program. Three 50-minute lectures per week plus a discussion once a week for two course credits. Full course, Semesters 1, 2.

12. CLASSICAL PHYSICS.

Full course, Semesters 1, 2.

An introductory survey of classical physics for science majors and others who require a mathematically complete approach to the material and who expect to continue their study of physics beyond the introductory year. Problem-solving is emphasized and independent work by students is expected. Three lectures and one tutorial per week for two course credits. Credit for both Physics 11. and 12. is not granted. Permission of the instructor and of the departmental undergraduate adviser is required for entry into this course.

19. INTRODUCTORY LABORATORY.

A laboratory course designed to accompany Physics 11. or 12. Emphasis is on physical measurements and techniques and on the ideas of applied mathematics needed to interpret experimental results. One meeting per week. One-half course credit. Students who are required to register for this course to satisfy departmental or program requirements do not pay extra tuition if concurrently registered for Physics 11. or 12. One-quarter course, Semesters 1, 2. Mr. Hohenemser, Mr. Gould.

113. QUANTUM PHYSICS.

A third semester introductory course in physics to follow either Physics 11. or 12. This course introduces the concepts of quantum physics with applications to the microscopic world. The philosophical implications of the theory are discussed. This course is appropriate for biology, philosophy, and S.T.S. majors as well as for physics and chemistry majors. Prerequisites: Physics 11. or 12. and Mathematics 12. or permission of instructor.

Full course, Semester 1.

Mr. Gottlieb.

Mr. Goble.

114. QUANTUM PHYSICS TUTORIAL.

This course continues the two year introductory sequence in physics for science majors and follows Physics 12. The material covered is identical to that in Physics 113. but is amplified by weekly tutorials. Students must be prepared to work independently. Prerequisite: Physics 12., corequisite: Mathematics 13.

Full course, Semester 1.

Full course, Semester 2.

Mr. Gottlieb.

Mr. Gottlieb.

119. ELECTRONICS LABORATORY.

An introductory laboratory course in electronics, the goal of which is to build and understand several simple circuits using discrete, as well as integrated, solid state elements. The course will begin with fundamentals of DC and AC circuit theory and the use of basic test instruments such as the oscilloscope. More specialized instruments having applications in other areas will also be considered. The course may replace Physics 19. as an introductory laboratory for biology, chemistry, and premedical students. One lecture and two laboratories per week. No prerequisites other than algebra are required.

Full course, Semester 1.

123. STATISTICAL AND THERMAL PHYSICS.

An introduction to the concepts of statistical and thermal physics including statistical mechanics, thermodynamics, and kinetic theory. The course will be practical in nature and stress applications to biology and energy-related problems. The course should be appropriate for majors in biology, economics, geography, philosophy, and S.T.S. as well as in physics and chemistry. A knowledge of calculus is essential but no mathematical sophistication is assumed. Prerequisite: background in physics equivalent to Physics 11. or permission of instructor.

124. STATISTICAL AND THERMAL PHYSICS TUTORIAL.

This course treats the same topics as Physics 123, but is more mathematical in nature. Additional applications are made to

problems in physics and chemistry. Much of the subject matter is conducted in tutorials. The student should be prepared to work independently. Prerequisites: Physics 12. and Mathematics 12. Credit for both Physics 123. and 124. is not granted.

Full course, Semester 2.

Mr. Gottlieb.

129. ELECTRONICS AND INSTRUMENTATION LABORATORY.

A second year laboratory course for science majors. During the fall semester students will develop their knowledge of discrete and integrated circuit theory by designing, building, and testing circuit models. Operational amplifiers and logical networks will be discussed as well. During the spring semester, students will concentrate on experimental design and measurement using their background in electronics. Departmental facilities such as the machine shop and electronics stockroom will be available. Emphasis will be on measurement of the properties of the fundamental particles including protons, neutrons, electrons, and positrons, and gamma ray photons. One tutorial and two laboratory sessions per week. Prerequisite: Physics 19. or equivalent and Physics 113. for the spring semester. Full course, Semesters 1, 2.

132. ALTERNATIVE ENERGY SYSTEMS LABORATORY.

Refer to description under S.T.S. 132.

Full course, Semester 1.

Mr. Gottlieb.

164. ELECTRICITY AND MAGNETISM. Not offered, 1976-77.

An intermediate level course dealing with the electromagnetic field. This course develops the phenomenology and theories leading to the formulation of Maxwell's equations. Scalar and vector potential theory, the elements of radiation dynamics, and relativistic covariance are discussed. Prerequisites: Physics 12. and Mathematics 13.

Full course, Semester 1.

Mr. Kohin.

174. MODERN PHYSICS.

An intermediate level course dealing with quantum mechanics and applications to atomic, nuclear, and solid-state physics. Prerequisites: Physics 124. and Mathematics 13. Full course, Semester 2. Mr. Andersen.

188. INDEPENDENT PROJECTS.

Independent study on topics in experimental or theoretical physics directed by a faculty sponsor.

Variable credit, Semesters 1, 2. Staff.

201. CLASSICAL THEORY OF FIELDS.

A course designed to prepare the physics major for graduate work in physics. Topics covered include classical mechanics, electrodynamics, and mathematical methods of physics. The lectures are the same as in Physics 301., but evaluation is separate. Given in four consecutive seven week sections which may be taken separately. Three quarters of a credit is given for each section. Prerequisites: Physics 164. and 174. One-and-one-half course, Semesters 1, 2. Mr. O'Neill, Mr. Weiss.

205. QUANTUM MECHANICS.

A course designed to prepare the physics major for graduate work in physics. The mathematical framework of quantum mechanics is covered. The lectures are the same as in Physics 305., but evaluation is separate. Prerequisites: Physics 124. and Mathematics 13.

Full course, Semesters 1, 2.

Mr. Goble.

209. STATISTICAL MECHANICS. Not offered, 1976-77.

A course designed to prepare the physics major for graduate work in physics. Lectures are the same as in Physics 309., but evaluation is separate. Prerequisites: Physics 174. and 123. or

Full course, Semester 2.

Mr. Davies.

219. PHYSICAL INSTRUMENTATION LABORATORY.

An introduction to modern physical research instrumentation. The course deals with the advanced interpretation of physical measurements in modern physics and is the same as Physics 129. except that interpretation of experiments must be at the advanced undergraduate or beginning graduate level. Undergraduates who have completed 129. may register for 219. Full course, Semester 2.

Mr. Hohenemser.

230. DIRECTED READINGS IN PHYSICS.

Directed readings in physics to provide the special needs not covered in regular courses.

Variable credit, Semesters 1, 2.

Staff.

231. SPECIAL PROJECTS IN EXPERIMENTAL PHYSICS.

Independent laboratory projects done under the guidance of a faculty adviser.

Variable credit, Semesters 1, 2,

Staff.

232. SPECIAL PROJECTS IN THEORETICAL PHYSICS.

Independent projects in theoretical physics done under the guidance of a faculty member.

Variable credit, Semesters 1, 2. Staff.

233. SPECIAL PROJECTS IN APPLIED PHYSICS.

Independent projects in applied physics done under the guidance of a faculty adviser.

Variable credit, Semesters 1, 2.

Staff.

301. CLASSICAL THEORY OF FIELDS.

An integrated year course in classical mechanics and electrodynamics. Topics covered include variational principles, canonical transformation, Hamilton-Jacobi theory, special theory of relativity, Lorentz transformations and the Lorentz group, the stress tensor and continuous media, Maxwell's equations, electromagnetic potentials, boundary value problems, radiation theory, and self-interactions.

One-and-one-half course, Semesters 1, 2. Mr. O'Neill, Mr. Weiss.

303. RESEARCH APPRENTICESHIP.

Direct participation in the experimental and theoretical research groups of the department. The student spends seven weeks working in each research group. Ph.D. students should enroll in this course for two semesters, M.A. students for one semester. Full course, Semesters 1, 2.

305. QUANTUM MECHANICS.

A comprehensive course in quantum mechanics. Topics include the Schrödinger equation and the general structure of wave mechanics, symmetries and angular momentum, potential scattering, perturbation theory, interaction of radiation with matter, spin, second quantization, and an introduction to relativistic quantum mechanics.

Full course, Semesters 1, 2.

Mr. Goble.

309. STATISTICAL MECHANICS. Not offered, 1976-77.

A comprehensive course in thermodynamics, statistical mechanics, and kinetic theory at an advanced level. Topics covered include ensembles, the theory of density matrices, ideal and real gases, Fermi and Bose distributions, Debye theory, molecular field theory, the Boltzmann equation, and the Onsager relations.

Full course, Semester 2.

Mr. Davies.

310. SOLID STATE PHYSICS.

An introduction to the quantum theory of solids. Topics covered include Born-Oppenheimer approximation, lattice dynamics, phonon spectra, electron structure of metals, insulators, and semi-conductors, transport theory.

Full course, Semester 1.

Mr. Gould.

311. ADVANCED QUANTUM MECHANICS Not offered, 1976-77.

Course includes relativistic quantum mechanics, quantum electrodynamics, and the many-body problem. Prerequisite: Physics 305. or equivalent.

Full course, Semester 1. Mr. Davies.

312. APPLICATIONS OF GROUP THEORY TO PHYSICS.

Not offered, 1976-77.

Representation theory for finite groups. Applications to crystallographic point groups. Representations of continuous impact groups: the rotation group. The Wigner-Eckart theorem and selection rules. The permutation group and its application to the system of identical particles. Classification of states of a multi-electron atom.

Full course, Semester 2.

Mr. Kohin.

314. THEORY OF MANY-PARTICLE SYSTEMS.

Not offered, 1976-77.

The equilibrium and transport properties of many-body systems are studied at zero and non-zero temperatures using the formalism of thermodynamic Green's functions. Applications are made to the electron gas, the degenerate Bose and Fermi gas, and superconductivity.

Full course, Semester 2.

Mr. Gould.

315. CRITICAL PHENOMENA.

Landau theory of second order phase transitions. Ornstein-Zernicke theory, and calculation of critical exponents. Review of recent experimental work near magnetic, gas-liquid, ferroelectric, superconducting, and structural phase transitions. Full course, Semester 2.

Mr. Gould.

316. MAGNETIC RESONANCE. Not offered, 1976-77.

Survey of current research utilizing various resonance techniques.

Full course, Semester 2. Mr. Andersen.

317. SOLID STATE SPECTROSCOPY. Not offered, 1976-77.

Theoretical and experimental review of the physics of solids observed using spectroscopic methods.

Full course, Semester 2. Mr. Hohenemser.

325. RESEARCH SEMINAR.

A student-participation seminar in current research problems. One-quarter course, Semesters 1, 2. Staff.

330. TOPICS IN EXPERIMENTAL PHYSICS.

A specific topic in experimental physics is considered at the research level. Topics are selected on the basis of current interest.

Variable credit, Semesters 1, 2.

Staff.

335. TOPICS IN THEORETICAL PHYSICS.

A specific topic in theoretical physics is considered at the research level. Topics are selected on the basis of current interest.

Variable credit, Semesters 1, 2.

Staff.

340. COLLOQUIUM.

Weekly invited lecturers speaking on research topics of current interest. Required for all graduate students.

No credit, Semesters 1, 2.

Staff.

350. RESEARCH.

Thesis and dissertation preparation.

Variable credit, Semesters 1, 2. Staff.



Psychology

DEPARTMENT FACULTY

Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology, Department Chairman

Mortimer H. Appley, Ph.D., Professor of Psychology, President

of the University

Robert W. Baker, Ph.D., Professor of Psychology Roger Bibace, Ph.D., Professor of Psychology

Tamara Dembo, Ph.D., Professor of Psychology, Emeritus

Bernard Kaplan, Ph.D., Professor of Psychology Donald G. Stein, Ph.D., Professor of Psychology

Ina C. Uzgiris, Ph.D., Professor of Psychology

Morton Wiener, Ph.D., Professor of Psychology

Leonard E. Cirillo, Ph.D., Associate Professor of Psychology Joseph H. deRivera, Ph.D., Associate Professor of Psychology* Rachel Falmagne, Ph.D., Associate Professor of Psychology James D. Laird, Ph.D., Associate Professor of Psychology

David A. Stevens, Ph.D., Associate Professor of Psychology Nicholas S. Thompson, Ph.D., Associate Professor of Psychology, Adjunct Associate Professor of Biology'

William Damon, Ph.D., Assistant Professor of Psychology Joseph Schmuller, Ph.D., Assistant Professor of Psychology John A. Whiteside, Ph.D., Assistant Professor of Psychology

*On Sabbatical leave, 1976/77

ADJUNCT FACULTY

Edward E. Sampson, Ph.D., Professor of Sociology and Adjunct Professor of Psychology

David Zern, Ph.D., Associate Professor of Education and Adjunct Associate Professor of Psychology

AFFILIATED STAFF

D. Frank Benson, M.D., Professor of Psychology, Affiliate Donald M. Broverman, Ph.D., Professor of Psychology, Affiliate J. Whitney Brown, M.D., Professor of Psychology, Affiliate R.J.O. Catlin, M.B., L.R.C.G.P., Professor of Psychology,

Harold Goodglass, Ph.D., Professor of Psychology, Affiliate Davis H. Howes, Ph.D., Professor of Psychology, Affiliate Irving Hurwitz, Ph.D., Professor of Psychology, Affiliate Allan F. Mirsky, Ph.D., Professor of Psychology, Affiliate William Vogel, Ph.D., Professor of Psychology, Affiliate Richard Walton, M.D., Professor of Psychology, Affiliate Marlene Oscar-Berman, Ph.D., Associate Professor of Psychology, Affiliate

Nelson M. Butters, Ph.D., Associate Professor of Psychology, **Affiliate**

Laird S. Cermak, Ph.D., Associate Professor of Psychology,

John Frey, M.D., Associate Professor of Psychology, Affiliate Edith F. Kaplan, Ph.D., Associate Professor of Psychology, **Affiliate**

Jeffrey Rosen, Ph.D., Associate Professor of Psychology,

Carolyn Cotsonas, J.D., Assistant Professor of Psychology, **Affiliate**

Robert A. Ciottone, Ph.D., Assistant Professor of Psychology, **Affiliate**

David Finkel, Ph.D., Assistant Professor of Psychology, Affiliate Deborah S. Kellett, Ph.D., Assistant Professor of Psychology, Affiliate

Lawrence Peterson, Ph.D., Assistant Professor of Psychology, **Affiliate**

Edgar B. Zurif, Ph.D., Assistant Professor of Psychology, Affiliate

Shannon T. Devoe, Ph.D., Research Associate Robert B. Shilkret, Ph.D., Research Associate Mary Walsh, Ph.D., Clinical Associate Victor Pentlarge, M.D., Psychiatric Consultant

UNDERGRADUATE PROGRAM

The department has emphasized in undergraduate courses and research the same respect for scholarship as it has at the graduate level. The aims of our undergraduate program are: to promote respect for intellectual activity; to encourage an attitude of intelligent inquiry; and to highlight the implications of psychological knowledge for an understanding of everyday phenomena. The department offers educational experiences that will enhance the students' liberal arts background as well as prepare them for graduate work in psychology or related disciplines.

Course Numbers. The undergraduate course numbering system has been reorganized and simplified. Ranges of course numbers now have specific meanings according to the following

noy.	
Range	Meaning
100-109	Courses all majors must take (General, Quantitative Methods)
110-149	Primarily freshman and sophomore survey courses; psychology as a life science
150-189	Primarily freshman and sophomore survey courses; psychology as a social science
190-199	Special freshman and sophomore courses
200-214	Laboratory courses
215-229	Research courses
230-234	Primarily junior and senior survey courses; psychology as a life science
234-239	Primarily junior and senior survey courses; psychology as a social science
240-259	Primarily junior and senior specialized seminars (may not be taken for graduate credit without special permission)
260-289	Primarily junior, senior and graduate specialized seminars (may be taken for graduate credit without special permission)
290-299	Special courses (honors, directed readings,

research) Major Requirements. The new expanded major in psychology, which applies to students declaring their major after September 1, 1974, consists of both psychology and related course requirements. The psychology requirements are designed to insure exposure to one of the most basic distinctions in contemporary psychology, that of psychology approached as a life or a social science: to insure some familiarity with experimental and observational methods (laboratory and practicum requirement); to provide background in essential quantitative skills (statistics requirement — Psychology 105.); and to guarantee several contacts with faculty in advanced, small-enrollment seminars.

The related requirement of two minors reflects the conviction of the department that all academic areas are actually or potentially related to psychology, but also that scholarship involves, at some point, studying subject matter in considerable depth.

1. Psychology Courses

Total of at least eight full-course equivalents, including:

a. 101. General Psychology

b. 105. Quantitative Methods

c. One full-course equivalent from range 110-149 or 230-234 (Survey courses: psychology as a life science)

d. One full-course equivalent from range 150-189 or 235-239 (Survey courses: psychology as a social science)

e. Two full-course equivalents from range 200-229 (laboratory and research courses)

f. Two full-course equivalents from range 240-289 (upper level seminars)

2. Related Courses

Related courses are defined in terms of minors. A minor consists of at least four full-course equivalents in a single area or department. Two minors must be chosen from the following areas or departments:

Biology Chemistry

Engineering, Applied Math, or Computer Science

Economics

Education

English

Foreign Languages and Literatures (includes

Linguistics)

Geography

Government and International Relations

History

Mathematics

Philosophy

Physics

Science, Technology and Science

Sociology

Visual and Performing Arts

There are two restrictions on permissible course sequences within an area or department:

a. In the case where a department offers more than one introductory course, only the course or courses designed to prepare students for further work in the area may be taken for related credit. In most departments, this excludes introductory courses designed for non-majors. Detailed information about this restriction may be obtained from the Department of Psychology.

b. The courses must form a coherent sequence or program within the context of the department in which a minor is taken. In most cases, this will be self-evident. However, in doubtful cases the student must consult his or her psychology adviser and the department concerned.

The Honors Program. Honors work in psychology is available to seniors who have demonstrated high scholastic achievement and the ability to work independently in scholarly situations. Students may seek admission to the honors program by requesting the faculty member, under whose direction they intend to do research work, to submit their name to the full faculty for consideration. Students in the honors program carry out an independent empirical research project under the sponsorship of one or more faculty members. This research provides basis for a thesis which, upon completion, is presented and defended by the students before an Examining Committee of faculty members. On the basis of the report of the Examining Committee and the students' advisers for the project, the department may recommend to the College Board that the students be awarded Departmental Honors at one of the following levels: Highest Honors, High Honors, or Honors in Psychology.

Students preparing for graduate work should obtain a reading knowledge of French, German, or Russian.

GRADUATE PROGRAM

General Requirements. The department admits to graduate work only those students who plan to enroll in the Ph.D. program on a full-time basis. The overall aim of the graduate program is to provide students with a general integrated background covering the various areas of psychology. Within these emphases there are several specialized programs available and these are described briefly below.

The lack of rigid boundaries between specialty areas and the lack of carefully specified curriculum sequences require in students a continuous process of self-definition regarding the

form of their graduate training. An adviser is appointed for each student, and it is expected that student and adviser will regularly review the student's progress and plans. However, our experience clearly indicates that there are persons who have difficulty tolerating the ambiguities in this kind of situation, and applicants are urged to assess themselves carefully in relation to the personal demands of such a setting. While several different traditions and points of view toward the study of psychology are represented in our department, including the behavioristlearning orientation that is characteristic of many American universities, there is a basic emphasis at Clark on the organismic-developmental approach (e.g., Heinz Werner, Jean Piaget). This emphasis does not in any way prevent the free and open expression or espousal of other points of view, but it does provide a distinctive theoretical coloring that is somewhat unusual in American psychology. In all the department's programs, including clinical and rehabilitation psychology, there is a primary concern with theory, conceptual analysis, and research. Participation in research is strongly encouraged all through the graduate experience and the nature of the research is determined primarily by a common interest of each student with that of a faculty member. The student is expected to contribute significantly to the conceptualization, design, execution, analysis, and writing-up of the work.

Course Work. Students ordinarily are expected to take four courses in each semester for their first two years, including in their first year Problem, Theory & Method in Psychology (301.) and Statistical Methods (302.). In subsequent years, students continue to enroll in a full program which ordinarily includes two or three content courses, research and reading courses, etc. A total of at least 18 one-semester courses are required for admission to candidacy for the Ph.D. of which at least two must be from among a group including personality, social, developmental, phenomenological, and cognition, and at least two must be from among the group including physiological psychology, learning, perception, and animal behavior.

In order to provide a basis for evaluation of students' progress early in their career, all students are required to write two papers (or equivalent) during each of their first four semesters, except that they need not write such papers during the semester in which they complete their M.A. thesis. Papers may be required by instructors in all or none of a student's courses. In the latter case, the student is required to submit papers in a minimum of two courses. Early in the semester, before writing the paper, the student should discuss the proposed content with the instructor. In some cases, the instructor may substitute some other "evaluatable performance" (e.g., an examination), for a paper. Note that it is the student's responsibility to ensure that the instructors in at least two of his/her courses understand that she/he intends to submit these papers to them. It is the instructor's responsibility to define what constitutes an adequate fulfillment of this requirement. The student is also responsible for informing the department office before the end of the semester, what papers will be submitted. and which instructor will evaluate those papers. If students have any questions they should consult the instructor or their general adviser

Teaching apprenticeship program. All students are expected to become involved in teaching as apprentices. Since many students ultimately become college and university teachers, acquaintance with the demands and techniques of teaching over a range of courses is considered an important part of their graduate training. Ordinarily, a student might spend an average of three to six hours a week in an apprenticeship.

Qualifying examination in quantitative methods. All students are required to demonstrate competence in quantitative methods by satisfactory performance on a qualifying examination in that area. The examination is normally taken at the end of the student's first year, at the completion of the course in quantitative methods.

M.A. degree. The M.A. degree is awarded after satisfactory completion of at least eight one-semester courses or their

equivalent, an M.A. thesis based on the collection and analysis of data, and an oral examination on the thesis. The requirements for the M.A. degree are to be completed within the first two years of graduate work and students who have not completed their M.A. degree by that time will not be permitted to enroll for the third year.

Language requirement. All students are required to demonstrate their ability to translate professional material in a foreign language. The examination will require that the student translate a relatively brief passage, in a relatively brief time, with the aid of any materials the student wishes. Students are expected to have met this requirement before admission to candidacy for the Ph.D.

Major paper and oral examination. This paper, ordinarily to be written by the end of the first half of the second semester of the student's third year, is expected to demonstrate the student's mastery of the research and theory in his/her area of specialization. An oral examination of this material will also be held shortly after the paper has been submitted.

Admission to Ph.D. candidacy: Satisfactory completion of at least 18 one-semester content courses (including 301. and 302.), as well as the above requirements, is necessary for admission to candidacy for the Ph.D. degree.

Ph.D. dissertation: The student demonstrates the ability to conduct independent research (under the supervision of a dissertation committee) by the presentation of an acceptable dissertation.

Ph.D. oral examination. Following submission of the dissertation to the department, a final oral examination is held in which the student presents and defends his/her dissertation and shows his/her competence in a general field of psychology as well as in his/her area of specialization.

SPECIAL TRAINING PROGRAMS

Training Program in Clinical Psychology. The Clinical Psychology Training Program which aims to provide students with competence in clinical methods as an integral part of their scholarly pursuits, requires, in addition to the other usual departmental requirements, the satisfactory completion of the Clinical Methods sequence; participation in the Psychological Services Center; completion of a year's internship in an agency approved by the American Psychological Association. Evidence of proficiency in clinical psychology through review of past clinical work carried out by the student or through examinations based on the assignment of a case specifically for this occasion will be required.

The goal of the clinical training program is to train scholars who can effectively function as scientists and/or professionals in different types of academic and/or clinical settings with diverse populations. All graduate students, including clinical students, are required to demonstrate mastery of general theoretical principles and methodologies in psychology. Within the overall framework of the clinical training program, there is, in addition to the more traditional opportunities, opportunity for training in the following realms:

 a) Child clinical (including the child's personality and cognitive disabilities in the context of family and school)

 b) Human neuropsychology (including clerkships and internships in the Boston V.A. Aphasia Unit, in addition to the seminars and clinical practica offered yearly)

 c) Family interactions (including consultation with the Department of Family Practice, U. Mass. Medical School)

The Psychological Services Center was established in 1950 to train doctoral candidates in clinical psychology and to offer diagnostic and therapeutic services to the Clark community. Graduate students in the clinical training program participate under close supervision for four years, receiving training in psychological testing, behavior therapy, psychotherapy, and diagnostic interviewing. One year of advanced participation may be waived if a student finds it necessary for financial reasons to obtain employment and if the employment provides experience

equivalent to the training obtained in the Psychological Services Center. For further information, write to the director of the program, Dr. Roger Bibace.

Developmental Psychology Program: This program is designed to prepare students for a career in research, teaching, and scholarly activity in developmental psychology. The goals are to impart to students competence in the variety of methods, techniques, and formats of conceptualization involved in the analysis of psychological development. Guided by those general aims, the developmental program provides in-depth training in special content areas such as child and infant development; perceptual development; language development; moral development; developmental psychopathology, etc. There is a nursery school associated with the University. There is also a recently constructed laboratory which provides facilities for both empirical and clinical research with children. For further information, write to the director of the program, Dr. Bernard Kaplan.

Social Psychology Program: Perhaps the most important feature of the social-personality program at Clark is its rather unique emphasis on the description and analysis of social experience. While we are also interested in how persons behave, we have a concern for experience in its own right. We want to know how and what persons feel, think, and value, as well as how they behave. Consequently, those of use who are most directly involved in the program have developed research strategies that tap into the experiences of everyday life. Conventional experimental work in areas such as verbal and nonverbal communication, socialization, attribution processes, selfconcepts, and interpersonal relations is going on in the department. Less traditional emphases include the study of the phenomenology of social processes, and the ethological and genetic approaches to understanding social behavior. Uniting these diverse activities is a common concern with the theoretical and metatheoretical structures which may enable us to understand social phenomena and the philosophical bases for these conceptualizations. For further information, write to the director of the program, Dr. Joseph deRivera.

Experimental Psychology Program: Training is offered in the general areas of perception, cognitive psychology, and animal and human learning, according to a flexible sequence of courses and seminars covering the theoretical foundations, content, and methodology of these areas, as well as specialized topics. The typical orientation in teaching and research is an integrative one, preserving and exploring the connections between these traditionally defined areas and other areas of psychology (developmental, ethology, phenomenology, etc.). The emphasis of the program is on the acquisition of both theoretical and empirical skills. Towards this end, specialized seminars are offered in or around the areas of special interest of the various faculty members: participation in ongoing research projects is encouraged, as well as research generated by students' interests. In teaching and research, the experimental faculty aims at preserving the continuity with both the mainstream of ongoing psychology research, and the values and perspective traditional to Clark, which emphasize conceptual sophistication and theoretical relevance, and discourage narrow-sightedness. The research areas currently represented in the department include thinking, reasoning, psycholinguistics, human learning and memory, cerebral hemispheric effects and linguistic information processing, animal discrimination learning and motivation, infant learning and perception, environmental perception and cognition, perceptual and aesthetic development, logical and language development, verbal and non-verbal communication. For further information write to the department chairman, Dr. Seymour Wapner.

Psychobiology Training Program: The program in psychobiology has two major foci: physiological psychology and animal behavior. Regardless of area, students are encouraged to begin research as soon as possible after acquiring an understanding of the theoretical basis of an area and the implications of the work. Students are encouraged to develop

their own research techniques as well as to master traditional skills and methodologies. For more information on training in physiological psychology, write to Dr. Donald G. Stein; for more information on animal behavior, write to Dr. David A. Stevens.

Rehabilitation Research Training: In conjunction with all other areas of specialization, rehabilitation research training is available. This training is designed to prepare students for investigations of psychological problems as they occur in everyday life. Emphasis on development of novel techniques and concepts is the main feature of the training. An integral part of the training is an apprenticeship-practicum during which the various phases of research in real-life settings are examined under the guidance of a staff member. This training is especially pertinent to those who are interested in social-emotional and value problems of handicapped and non-handicapped people. For further information, write to Dr. Tamara Dembo.

Interdisciplinary Work: The department recognizes the interest of some students to undertake study and research which cuts across disciplines or areas that now exist. Interdisciplinary activity by students is feasible at Clark inasmuch as some members of the Psychology faculty are now, or recently have been, engaged in activities with faculty of other departments.

Applicants for graduate study in psychology, who are interested in securing more detailed information concerning the department and its programs, are urged to write to the department for a brochure, "Information on the Graduate Program in Psychology."

THE HEINZ WERNER INSTITUTE OF DEVELOPMENTAL PSYCHOLOGY

Associated with the department is the Heinz Werner Institute of Developmental Psychology, which has three aims: first, to integrate various research programs dealing with developmental problems; second, to bring to Clark University scholars, teachers, and research workers from disciplines for which developmental problems are pertinent such as anthropology, biology, and certain areas of medicine; third, to train research workers on post-doctoral levels in the comparative-developmental approach to behavior. Information regarding post-doctoral work at the Institute may be obtained by writing to Dr. Bernard Kaplan.

COURSES

101. GENERAL PSYCHOLOGY.

Introduction to the principles of human behavior. No prerequisite. Unless otherwise noted, this course is a prerequisite to all other psychology offerings.

Full course, Semesters 1, 2. Mr. Laird, Mr. Stevens.

105. QUANTITATIVE METHODS.

The theory of experimental inference and the logic of experimental design.

Full course, Semester 1. Semester 2.

Mr. Schmuller. Ms. Falmagne.

130. PSYCHOLOGY OF LEARNING.

Methods and findings in the study of learning are discussed, with emphasis on their relation to theories of learning. Selected controversial issues are examined.

Full course, Semester 1.

Mr. Stevens.

140. SENSATION AND PERCEPTION.

An introductory course that includes exposure to the basic concepts of sensory physiology and sensory processes. Emphasis is on auditory and visual perception, but all six major senses are considered. The course is aimed at providing a solid background in this, the oldest area of experimental psychology, but also deals with such topics as the relation between perception and aesthetics (both of the everyday and concert-hall variety), and the development and subsequent degeneration of

sensory and perceptual capabilities that occur between birth and death.

Full course, Semester 1.

Mr Whiteside

141. PRIMATE SOCIAL BEHAVIOR. Not offered, 1976-77.

The study of the social behavior of monkeys and apes highlights central problems in psychological, zoological, and anthropological approaches to behavior. It also has important implications for the past evolution and present nature of man's sociality. (See also Biology 182.)

Mr. Thompson.

150. INTRODUCTION TO CHILD PSYCHOLOGY.

The development of intellectual and social functioning in the child will be discussed. Theoretical approaches to conceptualizing change in the developing child will be emphasized: psychoanalytic, Piagetian, and behavioristic approaches will be contrasted.

Full course, Semesters 1, 2. Mr. Damon, Ms. Uzgiris.

162. PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR.

Psychoanalytic contribution to the understanding of human behavior and conflicts. Limited to 40 students. No prerequisite. Full course, Semesters 1, 2. Mr. Bibace.

169. THE PSYCHOLOGY OF LOVE AND HATE.

Not offered, 1976-77.

An examination of how the emotions of love and hate are manifested in infancy, childhood, adult life, and in social-collective phenomena. The course will deal with related emotions such as envy, greed, jealousy, despair, etc. Prerequisite: permission of instructor.

Mr. Kaplan.

170. INTRODUCTION TO SOCIAL PSYCHOLOGY.

An examination of the relationship between the individual and the social system as understood through the theories, methods, findings, and applications of social psychology. (See also Sociology 105.)

Full course, Semester 1.

Mr. Sampson.

172. PSYCHOLOGY OF PERSONALITY.

Consideration of various theoretical approaches, including psychoanalytic, behaviorist, and self theories, and of research work in areas such as anxiety, stress, unconscious processes, emotion, and motivation.

Full course, Semester 2.

Mr. Cirillo.

173. ABNORMAL PERSONALITY.

A descriptive survey of the major forms of psychological disturbances with consideration of their causes and their significance for personality theory. The principal disturbances included are: mental retardation, behavioral effects of central nervous system pathology, psychosomatic conditions, character disorders, psychoneuroses, and psychoses.

Full course, Semesters 1, 2. Mr. Baker.

184. PHENOMENOLOGICAL PSYCHOLOGY.

Not offered, 1976-77.

The description and analysis of experience, particularly emotional experience. Behavior is considered as an independent rather than a dependent variable. We examine the implications of concepts such as assertion, commitment, identification, and liberation, and search for the essential structures of experience.

Mr. deRivera.

185. HUMANISTIC PSYCHOLOGY. Not offered, 1976-77.

Humanistic psychology is concerned with knowledge about personal development, creative transactions, and the

establishment of conditions for realizing human values. Ideas in this field will be tested by seeing whether or not they apply to ourselves. Therefore, this course has a series of "laboratories" and the student should be willing to be a member of a small group and participate in projects that range from spiritual work to the work of changing our society. Interested students should see the fuller description in Room 201, Jonas Clark Hall. No prerequisites.

Mr. deRivera.

191. HISTORY OF PSYCHOLOGY. Not offered, 1976-77.

Historical development of theories and methods of psychology. Limited to 50 students.

Mr. Kaplan.

192. CONCEPT OF SPACE IN PSYCHOLOGY.

Not offered, 1976-77.

Freshman seminar: psychology of spatial relations. This seminar is part of a cluster course called "Concepts of Space." An examination of the pervasiveness of spatial relations and spatial dimensions in the interpersonal and intrapersonal-intrapsychic functioning of humans. The course will deal with ontogenesis (child development), intrapersonal relations, the formation and dissolution of the body schema, psychopathology, etc. Limited to freshmen.

Mr. Kaplan.

200. LABORATORY IN ETHOLOGY. Not offered, 1976-77.

The observation of wild animals in the field. Prerequisite: Psychology 105. and permission of instructor. Limited to 10 students.

Mr. Thompson.

201. LABORATORY IN SOCIAL PSYCHOLOGY.

Focuses on the behavior of small groups. Participation in this laboratory includes chairing one of the discussion groups in Psychology 184. Limited to 20 students. Prerequisites: Psychology 170., 105.

Full course, Semester 2.

Staff.

202. LABORATORY IN CHILD RESEARCH.

An introduction to methods used in the study of child thought and behavior. Students will conduct research projects involving observational, experimental, and interviewing techniques. Discussions will consider means of data analysis as well as data collection. Prerequisites: Psychology 105., 150. Limited to 16 students.

Full course, Semester 2.

Mr. Damon.

203. LABORATORY IN HUMAN COGNITION.

Not offered, 1976-77.

Experimental studies in the area of concept learning, memory, reasoning, and language comprehension. The course is aimed at familiarizing the students with the methods used in cognitive psychology, the range of problems studied, and the theoretical concepts used to interpret experiments. Skills in experimental design, statistical analysis, reading and summarizing scientific journal articles, and scientific writing will be acquired in the context of conducting two or three closely supervised experimental projects and one more independent project. Prerequisite: Psychology 105.

Ms. Falmagne.

204. LABORATORY IN LEARNING. Not offered, 1976-77.

The course is designed to familiarize students with research methods and experimental designs used in investigations of theories of learning and learning phenomena, with both human and animal subjects. Limited to 20 students. Prerequisites: Psychology 105., 130.

Mr. Stevens.

205. LABORATORY IN THINKING.

Empirical studies are carried out by the class in areas such as representation, problem-solving, and psycholinguistics. Theoretical and methodological background of the studies is considered in historical context. Emphasis is on the relationship between evidence and inference in collecting and analyzing data and in writing research reports. Prerequisites: Psychology 105., permission of instructor.

Full course, Semester 1.

· Mr. Cirillo.

206. LABORATORY IN PERSONALITY.

Issues and problems in psychological research in general and in the personality area in particular are examined, the problems being examplified in studies developed and performed by the class group and by individuals. Experiments may be in any of the conventional areas of personality research, such areas as perceptual defense, motives and performance, self perception, experimenter influence, and emotions. Prerequisites: Psychology 172., 105., permission of instructor.

Full course, Semester 1, Modular Term. Mr. Broverman,

Mr. Laird.

207. LABORATORY IN PERCEPTION. Not offered, 1976-77.

This is an intensive course stressing mastery of experimental skills and scientific writing. The course will involve five experiments and an independent project. Responsibilities will include written reports for the five experiments and a written report and in-class presentation of the independent project. There will be no examinations. A unique feature of the course is that each report may be resubmitted up to a total of three times, with only the highest grade counting. The experiments will include investigation of sensory and perceptual phenomena in a variety of sense modalities, and will make use of the department's extensive collection of experimental apparatus, including the PDP-12 laboratory computer. Prerequisites: Psychology 105., permission of instructor.

Mr. Whiteside.

208. LABORATORY IN CHILD PSYCHOLOGY.

Introduction to research methods employed in the study of child behavior through participation in studies carried out by the class, with particular emphasis on experimental designs currently used in the field. Related theoretical and methodological issues will be discussed with the aim of placing the experimental study of child behavior within the study of development. Prerequisites: Psychology 105., 150., permission of instructor.

Full course, Semester 1.

Ms. Uzgiris.

210. LABORATORY IN PHENOMENOLOGY.

Not offered, 1976-77.

This laboratory is designed to acquaint students with the method of "conceptual confrontation" a type of phenomenology that is useful in exploring effects and interpersonal phenomena.

Prerequisite: Psychology 184., or a philosophy course in phenomenology.

Mr. deRivera.

211. FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING.

Illustration of various cognitive and social-interpersonal models of human behavior in the classroom setting. Special consideration will be given to the work of Freud, Piaget, Skinner, Wertheimer, Lewis, and F. Kluckhohn. Students will carry out field observations, and formulate and execute their own individual projects. (See also Education 211.) Prerequisites: Psychology 105., permission of instructor.
Full course, Semester 2.

213. LABORATORY IN INTERPERSONAL RELATIONS.

Interviewing in the area of interpersonal relations with emphasis on value possessions, value transmissions, and value losses. Corequisite: Psychology 286. Limited to 20 students. Full course, Semester 2. Ms. Dembo.

214. LABORATORY IN REHABILITATION.

Stress is placed on interview technique in the study of rehabilitation issues. Corequisite: Psychology 253. Limited to 20 students.

Full course, Semester 1.

Ms. Dembo.

216. RESEARCH IN EARLY SOCIAL DEVELOPMENT.

Students will participate in an on-going research program focusing on the development of social and moral conceptions in young children. Weekly meetings will discuss study design, data analysis, and methods of data collection. Students will read and discuss relevant socialization literature, and will participate in the construction and execution of research projects.

Prerequisites: Psychology 202. or 208., permission of instructor. Full course, Semester 1.

Mr. Damon.

217. RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD.

With roots in Piaget's theorizing, a constructivist-interactionist approach to the study of development in infancy and early childhood will be exemplified through the findings and problems from an on-going research project. Students will formulate pertinent studies, participate in their execution, and prepare papers describing their work. Prerequisite: permission of instructor.

Full course, Semesters 1, 2.

Ms. Uzgiris.

218. RESEARCH IN ANIMAL BEHAVIOR.

Weekly meetings in which research literature of interest to the group is reviewed, and participants' research projects are designed and evaluated. Prerequisite: permission of instructor. Variable credit, Semester 1. Mr. Stevens, Mr. Thompson.

219. RESEARCH IN BRAIN DAMAGE AND BEHAVIOR.

This is a course that lasts at least one academic year and is open to anyone who has the high level of motivation and intellectual curiosity necessary to develop and carry out an intensive program of research on the relationship between brain function and the organization of behavior. Essentially, the course takes the form of a "tutorial" in which there is a very close working relationship between students, the professor, and the graduate students working in the laboratory. There is active involvement in all phases of research, including searching available literature, planning and design of experiments, all surgical and histological procedures, data analyses, and final preparation of the material for presentation (by the students) at scientific meetings or publication. It must be emphasized that while solid grasp of experimental techniques is necessary, the development of conceptual and theoretical skills is given first priority. Enrollment is strictly limited and is by invitation of the instructor. Prerequisites: High academic standing. Biological or experimental background desirable but not essential. Full course, Semesters 1, 2, Mr. Stein.

220. RESEARCH IN LEARNING AND MOTIVATION.

Students will participate in the design, conduct and interpretation of experimental research on problems in animal discrimination learning and motivation. Prerequisite: permission of instructor.

Variable credit, Semester 2.

Mr. Stevens.

222. RESEARCH IN HUMAN COGNITION.

The information processing approach is applied to such problems as attention, memory, visual and auditory cognition.

Projects might include: (1) memory for unattended messages; (2) hemispheric differences in metacontrast; and (3) multi-dimensional scaling analysis of memory uncoding. Prerequisite: permission of instructor.

Full course, Modular Term.

Mr. Schmuller.

226. RESEARCH IN PERCEPTUAL DEVELOPMENT.

This course involves collaboration between the instructor and students on individual research projects that fall within the scope of the instructor's research program in perceptual development. For purposes of the course, the study of perceptual development is defined as the study of the development over age or practice, of patterns of activity that are associated with the solution of perceptual tasks involving the visual, auditory, tactual, olfactory, and/or thermal senses. Experience has shown that the course demands considerable investment of time and that its aims are unlikely to be fulfilled in one semester: thus students should plan to register for at least two semesters. Enrollment in mid-semester is possible. Prerequisites: Psychology 105., Psychology 140., and one laboratory course, permission of instructor. Full course, Semesters 1, 2, Modular Term. Mr. Whiteside.

228. RESEARCH ON DEVELOPMENTAL ASPECTS OF TRANSACTIONS OF PERSONS-IN-ENVIRONMENTS.

Theory, findings, and research problems deriving from an ongoing research program — an organismic-developmental systems approach to the analysis of transactions of persons-inenvironments — will be discussed. Empirical studies on problems relevant to the research program will be formulated and conducted by individual students. Papers describing the research project will be prepared. Prerequisites: Psychology 105., permission of instructor.

Full course, Semesters 1, 2, Modular Term.

Mr. Wapner.

230. THE PHYSIOLOGY OF BEHAVIOR.

A survey of current problems of physiological psychology including theories of brain function. Emphasis will be placed on the underlying physiological mechanisms which mediate human behavior, i.e., motivation, emotion, learning, perception, and memory. The course is constructed on a systems approach, designed to demonstrate the complex and interdependent relationship of the body and brain to behavior.

Full course, Semester 2.

Mr. Stein.

231. COGNITIVE DEVELOPMENT. Not offered, 1976-77.

The course critically surveys empirical findings and selected theoretical viewpoints (especially Piaget's) in the areas of perceptual development, development of scientific concepts, of logic, and of language. The relations between cognitive development and, respectively, language and culture, are examined and discussed in connection with the theories surveyed. Active participation from students is encouraged. Prerequisite: permission of instructor.

Ms. Falmagne.

232. COGNITIVE PSYCHOLOGY.

An introduction to the human information processing approach, and a comparison with other approaches to the study of psychological phenomena. There will be an examination of work in visual and auditory cognition from the information processing viewpoint; this will include a consideration of issues in attention, memory, and language. Recent findings in the field of problem-solving will also be discussed. Students will be required to do at least one project, either a theoretical paper or a literature review. Prerequisite: permission of instructor. Enrollment is limited to 20 students.

Full course, Semester 2.

Mr. Schmuller.

240. DEVELOPMENTAL APPROACHES TO BEHAVIOR.

A critical examination of presuppositions, methods, concepts,

and empirical inquiries of those concerned with the development of behavioral systems. Implications of developmental conceptualization for all of the life sciences will be discussed. Psychological theories of Freud, Piaget, and Werner will be given special emphasis. Prerequisite: permission of instructor. Full course, Semesters 1, 2. Mr. Kaplan.

241. SEMINAR IN INDIVIDUAL DIFFERENCES IN COGNITIVE FUNCTIONING. Not offered, 1976-77.

An examination of the evidence for and explanation of individual differences in cognitive functioning and personality. Particular attention is given to the role of socio-cultural factors in cognitive functioning. Prerequisite: permission of instructor.

242. PSYCHOLOGY OF LANGUAGE.

A social-psychological and anthropological analysis of the various functions of language will deal with language in everyday life, in poetry, in dreams in social movements, etc. Also considered will be various philosophical views of language and the relations between language and thought. Prerequisite: permission of instructor. Limited enrollment. Full course, Semester 2. Mr. Kaplan.

245. CONCEPTS IN LEARNING THEORY.

Some persistent problems in the field of learning are examined. Examples of such problems are the question of the universality of laws of learning, differentiating between non-associate (motivational), and associative factors and species differences. Psychology 130, provides desirable preparation for this course. Full course, Modular Term. Mr. Stevens.

246. PRINCIPLES OF BEHAVIORAL EVOLUTION.

Not offered, 1976-77.

From a broad survey of the social systems of animals, this course will attempt to distill the general principles that have directed the evolution of animal behavior. (See also Biology 183.) Mr. Thompson.

247. SOCIAL DEVELOPMENT FROM INFANCY THROUGH ADOLESCENCE.

An examination of theories and research dealing with the process of socialization in the first two decades of life. Topics to be emphasized include: attachment, imitation, role taking, and the development of social identity. Full course, Semester 2. Mr. Damon.

248. CONCEPTS IN THEORIES OF PERSONALITY - NORMAL AND ABNORMAL.

Consideration and a critical analysis of: (1) concepts and issues in theories of personality, and (2) concepts used to account for deviant behavior. Prerequisites: Psychology 172., 173. Full course, Semester 2. Mr. Wiener.

249. PSYCHOLOGY OF DEATH.

Beliefs and actions regarding death in diverse social contexts and cultures. Permission of the instructor required. Full course, Semester 1. Mr. Bibace.

250. COMMUNICATION: VERBAL AND NONVERBAL.

(1) An analysis of the term communication and (2) a study of the varieties of communication patterns for different populations. Full course, Semester 1. Mr. Wiener.

251. CURRENT CONCEPTS IN MENTAL HEALTH: THEORY AND PRACTICUM.

Students will participate in mental hospitals, mental retardation centers, or other agencies. This practicum experience will be integrated through the use of theoretical concepts articulated in

the academic prerequisites to this course. A diary of the practicum experiences and a paper will be required. Prerequisites: Psychology 101., 173., permission of instructor. Full course, Modular Term. Staff.

253. SEMINAR IN REHABILITATION.

Psychological problems in everyday life situations, such as problems of the physically disabled, mentally retarded, the aged, the poor, etc. will serve as topics. The primary focus is on interpersonal relations and their importance for environmental changes. Limited to 20 students. Corequisite: Psychology 214. Full course, Semester 1. Ms. Dembo.

255. PSYCHOLOGY OF MUSIC.

An examination of the physics of musical sound, the structure and function of the auditory system, the history of music with special reference to the evolution of scales, and the development of musical tastes, historically and ontogenetically. Limited to 15 students.

Full course, Semester 2.

Mr. Whiteside.

260. THE HISTORY AND PRESENT STATUS OF INSTINCT. Not offered, 1976-77.

It has long been argued and long contested that man and animal alike are guided in their social behavior by innate tendencies. This offering will emphasize the devious and irrational course of progress in a scientific field of study so loaded with social and philosophical implications. Prerequisite: permission of instructor. (See also Biology 280.)

Mr. Thompson.

261. HUMAN NEUROPSYCHOLOGY.

Beginning with the neurological basis of behavior and neurobehavioral abnormalities, the field of cortical function is surveyed from the clinical, theoretical, and experimental viewpoints. Topics covered include aphasia, cerebral dominance, memory and its disorders, organic disorders of perception and emotions; methods used in clinical and experimental study.

Full course, Semesters 1, 2, Ms. Kaplan, Ms. Oscar-Berman, Mr. Benson, Mr. Butters, Mr. Cermak, Mr. Goodglass, Mr. Howes, Mr. Rosen, Mr. Zurif.

262. INFORMATION PROCESSING — MEMORY AND PERCEPTION. Not offered, 1976-77.

Models of normal information processing and their application to neurologically impaired perceptual and mnemonic processes will be reviewed. An attempt will be made to show how different neurological disorders represent failures at distinctive stages of information processing. Clinical materials related to visual object agnosia, constructional apraxia, and various amnesic states will be presented and discussed in detail. Emphasis will be placed upon a critical examination of the theoretical and experimental investigations of Luria, Teuber, Talland, and Milner.

> Ms. Oscar-Berman, Mr. Butters, Mr. Cermak.

263. CLINICAL SEMINAR — LANGUAGE DISORDERS.

Not offered, 1976-77.

A patient with aphasia will be studied in depth each week on the basis of neurological and behavioral background data and testing to be assigned in rotation to each qualified member of the class with supervision by the instructor. Class session will include interview with patient and integrated interpretation of data from all sources.

Mr. Goodglass, Ms. Kaplan.

264. CLINICAL SEMINAR — NON-LANGUAGE DISORDERS. Not offered, 1976-77.

A patient with neurobehavioral disorders other than aphasia will

be studied in depth each week on the basis of neurological and behavioral background data, plus testing to be assigned in rotation to each qualified member of the class with supervision by the instructor. Cases studied will include disorders of memory, perception, visuo-spatial ability, body image. Class session will include interview with patient and integrated interpretation of data from all sources. Limited to 12 students. Prerequisite: permission of instructors.

Mr. Goodglass, Ms. Kaplan.

265. INFORMATION PROCESSING — NEUROLINGUISTICS.

The phenomena of aphasia, alexia, and associated disorders of language will be considered in relation to theories of the storage and processing of verbal information. Relevant models dealing with phonology, word selection, syntax, and semantics will be discussed. Attention will be given to the special problems of using psychological theories based on experimental data from normal subjects to account for findings with brain-damaged patients.

Full course, Semester 1.

Mr. Howes, Mr. Zurif.

266. CEREBRAL DOMINANCE SEMINAR.

The distinctive roles of the left and right hemispheres in man will be reviewed, first by examining alterations in language and nonverbal behavior under conditions of unilateral brain damage and section of the corpus collosum. A second approach will involve the examination of techniques used to investigate hemispherical functional asymmetry in the normally intact brain. Special attention will be devoted to hemispheric asymmetry in relation to different levels of language processing.

Full course, Semester 2.

Mr. Goodglass, Mr. Zurif.

268. PSYCHOLINGUISTICS. Not offered, 1976-77.

The course is intended for graduate students and advanced undergraduates with a solid formal background. The first part of the course will consist in a systematic introduction to linguistics (generative transformational grammar, semantics). The second part will be a survey of selected empirical work in psycholinguistics, aimed at providing familiarity with the literature, issues, and bibliographical sources, and at identifying and formulating new or continuing empirical questions. The course will be conducted as a workshop, in which the sequence of readings and topics will ensure a systematic progression through the material and each student will have primary responsibility for the formal presentation of part of the material on one session. A supplementary reading list will be provided at the end of the course; the aim of the course is to enable students to continue reading on their own in the area after this introductory background. Prerequisite: permission of instructor. Limited to 10 students.

Ms. Falmagne.

270. SEMINAR—ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.

Intensive treatment of selected areas in social psychological research and theory, including consistency theories in attitude formation and in interpersonal perception; attribution theory in self-perception; social/situational determinants of normal, everyday behavior and of anti-social behaviors such as violence, criminality, and riots. Ordinarily limited to senior majors in psychology or sociology. Prerequisite: permission of instructor. Full course, Semester 2.

Mr. Laird.

276. SYMBOLISM IN EVERYDAY LIFE: LANGUAGE, DREAMS, MYTHS, LITERATURE AND SCIENCE.

A critical examination of various theories of symbol-formation with special emphasis on the origins, structure, and functions of dreams and myths. The relation of dream formation to psychopathology and the recent work on the physiological bases

of dreaming will also be discussed. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Kaplan.

279. COMPUTER APPLICATIONS IN PSYCHOLOGY.

Most computer courses deal with the computer's ability to analyze large quantities of data. This course will stress the use of computers in on-line applications such as acquiring data and running experiments. Students will learn the machine and assembly languages used by the department's PDP-12 laboratory computer. The major course responsibility will involve writing a substantial program that would make possible the completion of a research project (in the student's area of interest) that would be difficult or impossible to undertake without the use of a computer. No previous background in computer languages is assumed. The course is not recommended for those who have taken Computer Science 140. Prerequisite: Psychology 105. Full course, Modular Term.

280. CURRENT PROBLEMS IN CHILD PSYCHOLOGY.

Not offered, 1976-77.

Specific aspects of child behavior will be studied through analysis of the current research literature in the field. Familiarization with current concerns of the field, the historical roots of these concerns, as well as with various literature sources will be the aim of the seminar. Prerequisite: permission of instructor.

Ms. Uzgiris.

285. FUNCTIONS OF THE DIFFERENT EMOTIONS.

Not offered, 1976-77.

Following the rules of "Conceptual Confrontation" we will attempt to explicate a different function for each emotion in a way that systematically relates the emotions named in the English language. Prerequisite: permission of instructor.

Mr. deRivera.

286. SEMINAR IN INTERPERSONAL RELATIONS.

Value problems pertaining to interpersonal relations will be discussed, including value possessions, value losses, regaining of values, and adjustment to value losses. Limited to 20 students. Corequisite: Psychology 213.

Full course, Semester 2. Ms. Dembo.

288. LOGICAL REASONING IN ADULTS AND CHILDREN.

The course will cover in depth the current empirical findings and theoretical developments in the areas of propositional reasoning, syllogistic reasoning, and transitive inference in children and adults. Issues related to the notions of mode of representation and of logical competence will be given particular attention, and connections with the adjacent area of psycholinguistics will be discussed. The research and models concerning reasoning in children and reasoning in adults respectively, will be presented from a common perspective, and the contrasts and connections with the Piagetian perspective will be indicated. Prerequisites: Psychology 231. or 268., permission of instructor.

Ms. Falmagne.

296. DIRECTED RESEARCH IN PSYCHOLOGY.

Independent study for qualified students not in the honors program. Prerequisite: permission of department chairperson. Variable credit, Semesters 1, 2, Modular Term. Staff.

297. DIRECTED READINGS IN PSYCHOLOGY.

Independent study for qualified students not in the honors program. Prerequisite: permission of department chairperson. Variable credit; Semesters 1, 2, Modular Term. Staff.

299. HONORS IN PSYCHOLOGY: SENIOR YEAR.

Students will carry out a research project under the direction of a member of the staff.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

300. PRO-SEMINAR - DEVELOPMENTAL PSYCHOLOGY.

A seminar devoted to the presentation and critique of different developmental approaches to the individual and his/her ways of functioning in the world. Among the approaches considered are: (1) organismic-developmental; (2) Piagetian; (3) Soviet approaches to psychology and (4) Freudian and neo-Freudian. The aim of the seminar is to acquaint the participants with sympathetic expositions of diverse points of view and the application of these viewpoints to empirical inquiry. It will thus provide a basis for subsequent discussions in other seminars of the various ways of dealing with substantive issues (e.g., learning, moral action and moral judgment, language behavior, the processes of thinking). Several faculty members and advanced graduate students will participate in conducting the seminar, each half-semester of which will be devoted to the examination of one theoretical approach.

Variable credit, Full course, Semesters 1, 2.

Mr. Kaplan, Mr. Bibace, Mr. Cirillo, Mr. Damon, Ms. Falmagne, Ms. Uzgiris, Mr. Wapner, Mr. Whiteside.

301. PROBLEM, THEORY AND METHOD IN PSYCHOLOGY.

During the first half of semester one, the faculty will present their own research with an emphasis on the special features of methodology they employ, including the links between method, theory, problems, and findings. During the second half of semester one, and semester two, there will be informal ad hoc individual or group meetings in which students will present proposals for their M.A. theses. At the end of the second semester, students will submit written reports which cover the status of the students' research.

Variable credit, Semesters 1, 2.

Mr. Wapner.

302. STATISTICAL METHODS.

Descriptive statistics, statistical inference, and experimental design in psychology.

Variable credit, Semesters 1, 2.

Mr. Schmuller.

303. BASIC PSYCHOLOGICAL PROCESSES IN PSYCHOPHYSICS, PERCEPTION, LEARNING AND MEMORY. Not offered, 1976-77.

An introduction to psychophysics, sensory processes, theories of perception, and theories of learning (semester one); memory, language, information processing, higher mental processes, including the biological bases thereof (semester two). This seminar is designed to give students basic concepts in classical and contemporary psychology. Several faculty members will conduct the class.

304. FORMAL MODELS FOR PSYCHOLOGY.

Introduction to formal methods and models applicable to psychological theorizing. The aim of the course is to familiarize students with methods and formal ways of thinking, that are of wide applicability across content areas, to indicate how various theoretical or empirical questions can be formalized in those terms, and to equip students with the sources and further readings that will enable them to pursue those topics further on their own. The topics covered in the first segment of the course will include sets and relations, groups, lattices, fuzzy sets, formal grammars and automata, and Markov chains. Illustrative applications of those methods to various content areas will be presented and worked out. The second segment of the course

will deal with psychological measurement. Topics to be discussed include foundations of psychological measurement, Thurstonian scaling, factor analysis, and current multidimensional scaling techniques. Students will use each of these measurement models to analyze sample data.

Full course, Semesters 1, 2. Ms. Falmagne, Mr. Schmuller.

305. BASIC PSYCHOLOGICAL PROCESSES IN SOCIAL-PERSONALITY. Not offered, 1976-77.

An examination of important processes in social-personality psychology. Topics include processes in motivation, attribution and evaluation, group formation and development, in the interactions between individual dynamics and cultural institutions.

Mr. deRivera, Mr. Laird, others.

308. RESEARCH PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY.

An advanced course in research methodology including surgical and stereotaxic techniques, histology, EEG recording and analysis, and general methods for animal care. Prerequisite: permission of instructor.

Mr. Stein.

311(a). CLINICAL METHODS I.

Introduction to psychometric and projective assessment. Variable credit, Semester 1. Ms. Kellett, Mr. Vogel.

311(b). CLINICAL METHODS I.

Clinical interpretation of representational behavior in projective tests and interviews from a cognitive and developmental viewpoint.

First half, Semester 2.

Mr. Cirillo.

311(c). CLINICAL METHODS I.

Clinical seminar in neuropsychological assessment. Second half, Semester 2, Modular Term. Ms. Kaplan, Mr. Goodglass.

312. PSYCHOPATHOLOGY.

Introduction to psychopathology: directly through naturalistic observation and interviews with seriously disturbed individuals; indirectly through clinical and experimental reports related to description and explanation of psychopathology. A paper on some specific psychopathological phenomenon (e.g., delusions, hallucinations) will be required.

Variable credit, Semester 2.

Mr. Bibace.

314. TOPICS IN PERCEPTION.

Selected issues in sensory processes, perception, perceptual development, and theories of perception will be considered. Special attention will be given to findings and perspectives that relate to more than one sense modality.

Full course, Semester 1.

Mr. Whiteside.

315. ADVANCED CHILD PSYCHOLOGY.

Not offered, 1976-77.

Discussion of conceptions and current research pertaining to some questions in the general area of human development in the early childhood years, such as imitation-identification, exploration and play, temporal organization of actions, etc. Variable credit.

Ms. Uzgiris.

317. BEHAVIOR IN INFANCY.

The seminar will proceed from an examination of the capacities for functioning in the neonate to a consideration of the changes in those capacities during ontogenesis with a view toward understanding the infant's organization of its functioning in the world.

Semester 1.

Ms. Uzgiris.

319. ADVANCED SEMINAR ON ORGANISMIC-DEVELOPMENTAL APPROACHES TO BEHAVIOR.

Not offered, 1976-77., Offered 1977-78.

Basic categories of the organismic-developmental approach to life sciences, with examination of the application of these categories to a wide range of problems areas in psychology. Variable credit.

Mr. Kaplan.

320. ADVANCED SEMINAR IN GENETIC-STRUCTURAL THEORIES Not offered, 1976-77, Offered 1977-78.

In this seminar, the major categories of all genetic-structural developmental theories (Freud, Werner, Piaget, et al) and the concepts and methodologies specific to different theories will be thoroughly examined and critically analyzed. This is an ongoing seminar comprised of advanced graduate students and including interested faculty. The seminar deals with the systematic roles of such concepts as "development", "structure", "regression", "system", "stage", etc.

Mr. Kaplan.

322. PSYCHOLOGY OF LEARNING.

Theoretical viewpoints and experiments in the field of learning. Variable credit, Semester 2. Mr. Stevens.

324. THEORIES OF PERSONALITY I: ISSUES IN THE PHILOSOPHY OF PSYCHOLOGY.

This course covers three areas: (1) discussion of the philosophical bases of "theories" of personality; (2) consideration of some of these issues in different theories (e.g., Freud, Kelly, Dollard, and Miller); and (3) presentation and discussion of an alternative framework.

Variable credit, Semester 1.

Mr. Wiener.

325. THEORIES OF PERSONALITY II: EXPLORATION OF EXEMPLAR THEORIES OF PERSONALITY.

Not offered, 1976-77.

Mr. Wiener.

327. MORAL DEVELOPMENT.

Not offered, 1976-77.

Classical and contemporary approaches to the development of moral judgment and conduct in the individual. Emphasis will be on new and future directions for research in this area.

Mr. Damon.

329. INTRODUCTION TO INTERVIEWING.

Variable credit.

First half, Semester 1.

Mr. Bibace.

330. GRADUATE SEMINAR ON TEACHING OF GENERAL PSYCHOLOGY.

Graduate students who will participate as teaching assistants in general psychology, will work on the formulation of all features of the course including assignments, responsibilities for lectures, readings, demonstrations, etc.

Modular Term.

Mr. Laird, Mr. Stevens, Mr. Wapner.

331. CLINICAL METHODS II.

Practicum devoted to clinical experiences primarily with children. This includes intelligence and projective testing; diagnostic interviewing, and play therapy with children. Students are supervised by Dr. Ciottone and other members of the Providence Child Guidance Clinic staff. Supervision either through graduate students or through direct observations and tape recordings. On alternate weeks, there is an evening meeting with Dr. Ciottone devoted to conceptualizing questions raised through the clinical activities. Students currently spend one day per week at the Child Guidance Center.

Variable credit, Semesters 1, 2. Mr. Ciottone.

332. THEORIES OF PSYCHOTHERAPY.

Comparison of various theoretical approaches to psychotherapy. Variable credit, Semester 2. Mr. Wiener.

334. SEMINAR IN BEHAVIOR AND EVOLUTION.

Not offered, 1976-77.

A consideration of selected contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. (See also Biology 334.)

Variable credit.

Mr. Thompson.

337. SEMINAR ON REASONING. Not offered, 1976-77.

The central theme is an examination of the notion of logical competence and its alternatives, both from a definitional point of view and in connection with the experimental data on reasoning. Starting from a review of the current literature on reasoning, the seminar will then explore the reciprocal relationships between logic and imagery, and logic and language. Various conceptions of logical competence will be discussed and related to the analogous issues in the psycholinguistics field.

Ms. Falmagne.

338. CONCEPTIONS OF PERSON.

Examination of research and theory in the areas of self concept and of person perception with a focus relationship between the two.

Semester 1.

Mr. Laird.

339. SEMINAR ON THE EFFECTS OF EARLY EXPERIENCE.

An examination of recent evidence pertaining to the effects of various circumstances during early ontogenesis on the course of cognitive and motivation development aimed at conceptualizing these effects within a coherent framework.

Semester 1.

Ms. Uzgiris.

340. PHENOMENOLOGY OF INTERPERSONAL RELATIONS. Not offered, 1976-77.

Interpersonal phenomena will be systematically examined with the methodology of "conceptual confrontation."

Mr. deRivera.

342. CHEMICAL COMMUNICATION.

A seminar dealing with the role of pheromones in mammalian behavior.

Variable credit, Semester 2.

Mr. Stevens.

351(a). CLINICAL METHODS III.

Cognitive approaches to children with learning disabilities.

Variable credit, Semesters 1, 2. Ms. Walsh, Mr. Hurwitz.

351(b). CLINICAL METHODS III.

Practica in consultation. Currently, graduate students can enroll in one or more of three practica devoted to consultation: consultation with nursing clinicians and team leaders at Hahnemann Hospital; consultation with residents in family medicine; and consultation with public school teachers of children coming to Clark for their learning disabilities. Semesters 1, 2.

Mr. Bibace.

352. CLINICAL METHODS IV.

Supervised experience in diagnostic interviewing in the Psychological Services Center.

Variable credit, Semesters 1, 2. Mr. Baker, Mr. Cirillo.

353. THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION.

Variable credit, Semesters 1, 2.

Mr. Peterson.

357. SYMBOLIC BEHAVIOR.

A seminar focusing on the problem of representation of symbolization, with special attention to the representation of abstract or "intangible" conceptions (meanings) in concrete objects, events, patterns, etc. The seminar will concern itself with the developmental process by which individuals represent meanings in dreams, political cartoons, spatial arrangements, material structures, and finally linguistic forms. Emphasis throughout will be on research into symbolic representation. Semesters 1, 2.

Mr. Kaplan.

360. SEMINAR: CURRENT APPROACH TO THINKING I. Not offered, 1976-77.

The seminar is aimed at providing an introduction to a number of contemporary, increasingly influential approaches to thinking, in particular: (1) computer simulation of problem-solving, memory, language comprehension; (2) recent Soviet work on thought and inner speech; (3) psychological and linguistic approaches to reasoning and semantics. The format will be study, presentation and discussion of selected significant writings in these areas. An additional "directed readings" arrangement could also be worked out optionally.

Variable credit.

Ms. Falmagne.

380. RESEARCH IN PSYCHOLOGY.

Direction of individual students in their research. Variable credit, Semesters 1, 2. Staff.

381. READINGS IN PSYCHOLOGY.

Critical analysis of literature in areas related to individual research.

Variable credit, Semesters 1, 2.

382. CONSULTATION IN FAMILY PRACTICE.

Concepts, assumptions and practicum in consulting with family practitioners.

Staff.

Semesters 1, 2. Mr. Brown, Mr. Catlin, Ms. Cotsonas, Mr. Frey, Mr. Walton.

385. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER I.

Semesters 1, 2. Mr. Baker, Clinical Staff: Mr. Bibace, Mr. Cirillo, Mr. Wiener.

386. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER II.

Semesters 1, 2. Mr. Baker, Clinical Staff:
Mr. Bibace, Mr. Cirillo, Mr. Wiener.

387. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER III.

Semesters 1, 2. Mr. Baker, Clinical Staff: Mr. Bibace, Mr. Cirillo, Mr. Wiener.

388. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER IV.

Semesters 1, 2. Mr. Baker, Clinical Staff: Mr. Bibace, Mr. Cirillo, Mr. Wiener.

389. INTERNSHIP IN PSYCHOLOGY.

Variable credit, Semesters 1, 2. Staff.

Russian

(See Department of Foreign Languages and Literatures.)

Science, Technology and Society

PROGRAM COMMITTEE

Christoph Hohenemser, Ph.D., Professor of Physics, Chairman Roger E. Kasperson, Ph.D., Professor of Government and Geography

Robert W. Kates, Ph.D., University Professor and Professor of Geography

John T. Reynolds, Ph.D., Professor of Microbiology Harvey Gould, Ph.D., Associate Professor of Physics John A. Davies, Ph.D., Associate Professor of Physics Stanley J. Poreda, Jr., Ph.D., Associate Professor of Mathematics

Frank W. Puffer, Ph.D., Associate Professor of Economics Dennis W. Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Adjunct in Geography Alan A. Jones, Ph.D., Assistant Professor of Chemistry Samuel E. Johnson, Ph.D., Assistant Professor of Zoology Harry Schwarz, B.C.E., Visiting Professor of Environmental Affairs, Adjunct in Geography

UNDERGRADUATE PROGRAM

Science, Technology and Society (STS) is a program of interdisciplinary study with emphasis on the assessment of science and technology in a social and political context. The goal of the program is to train individuals who are able to deal with policy questions on the use and misuse of science and technology, and who do so with the short and long range limitations of the natural environment in mind.

Although science and social science are both important to the goals of the program, major requirements in the program do not give equal weight to both, but emphasize achieving literacy in science. At the same time, majors in other fields who find STS courses useful are most welcome, and often constitute the majority of students enrolled in a given course.

The reason for the emphasis on science training for those who major in Science, Technology and Society is twofold: (1) many significant problems are accessible only with a thorough grounding in science; (2) in the nation's future, there is a significant need for managers of technology whose experience with science and technology is more than perfunctory.

A major in STS should be of interest to students with significant talent for science whose goal is to understand the important issues at the complex interface between science and society. Some graduates of the program may define themselves in terms of the rapidly emerging new field of technology assessment. Others may enter broadly defined graduate areas such as resource management, geography, oceanography, or environmental science. The program should also be of interest to pre-medical and pre-law students, in particular those interested in environmental law, potential school teachers, community service workers, government regulatory officials, and science writers.

The requirements for the major in Science, Technology and Society are as follows —

- 1) Ten semesters of basic natural science, with at least six semesters in a single discipline. For the present purpose, the natural sciences shall include physics, chemistry, biology, and mathematics.
- Four semesters of courses in social science selected with advice of the Program Committee to fulfill the goals of the student in keeping with the program.
 - 3) Three semesters of problem-oriented courses on specific

issues from the listing below. In general, the problem-oriented courses will be offered under the specific auspices of the Program Committee, will provide a distinctly multidisciplinary approach, will have a significant, if not predominant, science input, and will in most cases be offered jointly by two or more faculty.

The choice of specific courses to meet the science and social science requirements will be made with approval of the Program Committee. Students should present their plans of study in the form of a written proposal to the chairman of the Program Committee after discussions with individual members of the committee, particularly those who are affiliated with departments in which students wish to specialize.

Students wishing to examine sample programs with emphasis in each of several disciplines of science should request the brochure on that subject from the chairman of the

Program Committee.

Students who intend to do graduate work are encouraged to investigate the minimum major requirements of the basic scientific discipline in which they plan to concentrate, and may wish to fulfill these requirements along with the requirements of the program.

Students who wish to receive honors in Science, Technology and Society must pass a comprehensive examination in their senior year at the B+ level, and must present an acceptable undergraduate thesis. The comprehensive examination will cover: (1) basic science in a discipline of the candidate's choice; (2) basic social science in the discipline of the candidate's choice and (3) a major problem of Science, Technology and Society of the candidate's choice.

The following courses satisfy the requirements of problemoriented courses. The courses have no specific prerequisites

except as indicated.

COURSES

101. INTRODUCTORY CASE STUDIES.

A joint introductory course to the Program on Science,
Technology and Society and the Program on Environmental
Affairs. The course will introduce students to a holistic approach
to problem solving in environmental affairs and technology
assessment. For semester one, cases will include (a) population,
food, and development; (b) power plant siting; and (c) water
resource planning. For semester two, case studies will include
(a) solar vs. nuclear energy; (b) environmental impact
assessment, and (c) heavy metals in the environment.
Full course, Semester 1. Mr. Hohenemser, Mr. Schwartz, Mr.
Ducsik.

Full course Semester 2. Mr. Hohenemser, Mr. Ducsik, Mr. Jones.

132. ALTERNATIVE ENERGY SYSTEMS LABORATORY.

Students will learn through lectures and laboratory experience about the physics and engineering of solar devices, such as collectors, solar cells, solar ovens, windmills. Co-requisite: Physics 11. or 12. Limited to six students.

Full course, Semester 1. Mr. Gottlieb.

142. ENVIRONMENTAL CHEMISTRY.

A study of the chemistry of the problems of the environment. Topics covered are chemistry of air and water pollution and possible solutions. Topics of interest include pollution from fossil fuels, oil pollution, pesticides, metal contamination, food additives, solid wastes. The laboratory primarily will make use of analytical techniques. Prerequisites: Chemistry 130. or 132. Three lectures and one laboratory per week.
Full course, Semester 1.

Mr. Jones.

150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

See Geography 150. for course description.
Full course, Semester 2. Staff.

201. ENERGY AND SOCIETY.

Examination of the role of energy in industrialized society, and the factors affecting future demand and supply, including resource availability. Discussion of the nature of the activities comprising both fossil and nuclear fuel cycles, including extraction, transport, processing, conversion, distribution, "final" consumption, and related processes. Special attention will be given to potential impacts on natural and social environments, using electric power generation as a frame of reference. Critical evaluation of present governmental arrangements for dealing with the power supply/environment

222. SEMINAR IN THE DYNAMICS OF CLIMATE AND SOCIETY.

A research seminar modeling long-term interaction between climate and human activity. The simulation will employ system dynamics methods on the five-thousand-year history of the Tigris-Euphrates valley. For advanced students with an interest in cultural ecology and/or environmental modeling. Prerequisite: permission of the instructor. (See also Geography 222.)

Full course, Semester 1.

Full course, Semester 2.

Mr. Gould, Mr. Johnson, Mr. Kates, Mr. Steinitz.

Mr. Ducsik.

235. COASTAL ZONE MANAGEMENT SEMINAR.

Introduction to the problem of achieving beneficial use and protection of the land/water resources comprising the coastal environment, with emphasis on the water's edge. Discussion of a broad range of topics relevant to the land-sea interface, including physical and ecological processes; the scope and extent of human activities; and incidence of adverse effects on ecological, economic, and amenity values. The legal aspects of land-use regulation as applied to coastal areas will be explored, together with recent developments in state and federal legislation and administrative programs. (See also Geography 235.)

Full course, Semester 1.

Mr. Ducsik, invited guests.

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

See Biology 239. for course description.
Full course, Semester 2. Mr. Reynolds.

240. SOLAR ENERGY AND THERMAL PROCESSES.

A mathematical approach to the understanding of the technical and economic aspects of solar energy use and related thermal processes. The course will include computer simulation of solar thermal systems. A knowledge of mathematics through elementary differential equations will be assumed.

Full course, Semester 2.

Mr. Davies.

270. SPECIAL TOPICS IN SCIENCE, TECHNOLOGY AND SOCIETY.

Independent readings and/or experimental work. Variable credit.

Semesters 1, 2.

Staff.

271. HONORS IN SCIENCE, TECHNOLOGY AND SOCIETY.

Supervised research leading to an undergraduate thesis. Variable credit.
Semesters 1, 2. Staff.

272. SPECIAL PROBLEMS IN ALTERNATIVE ENERGY RESOURCES.

A project-oriented seminar tied to on-going faculty research. For semester one, the seminar will deal with the problem of decentralized power generation in Massachusetts, using the Clark University system as a case in point.

Full course.

Mr. Gobel, Mr. Davies.

278. SEMINAR ON NUCLEAR POWER.

Major issues surrounding the implementation of nuclear electric power. On the technical side the focus will be on salient aspects of nuclear technology, risk assessment, the prospects for the breeder, and the special economic problems of capital intensive. long-term investments. On the societal side, the focus will be on problems of nuclear power regulation, safety policies, accident liability, siting policy, and assessments of public attitudes. (See also Government 278.)

Full course, Semester 2. Mr. Hohenemser, Mr. Kasperson,

Sociology

DEPARTMENT FACULTY

Robert J. S. Ross, Ph.D., Assistant Professor of Sociology.

Edward E. Sampson, Ph.D., Professor of Sociology, Adjunct Professor of Psychology

Stanford N. Gerber, Ph.D., Associate Professor of Social Anthropology and Sociology

Sidney M. Peck, Ph.D., Associate Professor of Sociology Karen Sacks, Ph.D., Assistant Professor of Sociology Elizabeth Stanko, Ph.D., Assistant Professor of Sociology

UNDERGRADUATE PROGRAM

The Sociology major consists of nine courses within sociology and, usually, five additional courses in other departments selected from a set of focused options; the selection will be developed through close consultation with a major adviser. The nine sociology courses are to be divided as follows:

I) At least one introductory course chosen from:

Introduction to Sociology

Introduction to Social Psychology Introduction to Social Anthropology

II) At least one advanced theory course chosen from:

Sociological Theory: Classical Sociological Theory: Contemporary

Anthropological Theory

Social Psychological Theory: Small Group and

Interpersonal Processes

Topics in Sociological Theory

III) At least one methods course chosen from:

Sociological Research Methods

Field Methods

(From time to time, other methods courses will be offered and may be substituted for the above listing; courses selected from the methods offerings in other departments may, with the consent of the student's adviser, be substituted for a methods course within sociology; the student can meet the methods requirement, but not the course requirement[i.e. nine courses in Sociology] by this

IV) At least two courses chosen from the following:

Ethnology: Caribbean Political Sociology Race and Ethnic Relations

Urban Sociology Social Stratification

Deviance

Social Psychology Theory: Small Group and Interpersonal

Processes

Industrial Sociology Social Movements

Sociology of Sex Roles

(From time to time, other courses will be offered and may be substituted for the above listing)

V) In their senior year, or in selected cases, before that, and in close consultation with their adviser, majors will select one of the following options:

Option A: Thesis: This is the equivalent of four full courses in sociology; it is designed for selected students who wish to devote approximately 50 per cent of their senior year to a major research problem.

Option B: Internship: This is the equivalent of from two to four full courses; it is designed for selected students who seek supervised field training in community or organizational settings.

Option C: Senior Seminar: This is the equivalent of two full courses and consists of a year-long seminar devoted to an examination of major themes and issues in Sociology. (Not offered, 1976-77)

Option D: Course Work: For those students who do not choose any of the other options, an additional four sociology courses are required; these may include core courses, directed readings, and special projects.

VI) Related Courses

In close consultation with their adviser, students will plan a program of additional courses which center on a coherent intellectual focus which complements the substantive knowledge of and conceptual skills of the department curriculum. Such foci will most usually consist of courses taken in another social science department, but they may be interdepartmental, e.g. "urban focus" could include courses in government, geography, history, and/or economics.

The general expectation of the department is that such related course work will comprise five (5) courses. This expectation may be higher for those who choose foci which entail taking elementary courses in preparation or as prerequisites. Thus, someone with an area study interest in Latin American culture would need elementary language courses in addition to five courses in culture, history, and politics.

GRADUATE PROGRAM

At the present time, the department is not accepting students for the Master of Arts degree.

COURSES

100. INTRODUCTION TO SOCIOLOGY.

This is a general introductory course to the discipline of sociology, intended mainly for students who wish to gain a broad, general overview of the field, its areas of study, methods of inquiry, and conceptions and analyses of society. The central objective of the course is to encourage students to think and feel sociologically.

Full course, Semesters 1, 2,

105. INTRODUCTION TO SOCIAL PSYCHOLOGY.

An examination of the relationship between the individual and the social system. The theories, methods, and findings of social psychology will be examined as they illuminate the major, enduring themes that confront human beings individually and collectively: e.g., the bases of knowledge and understanding; the individual and authority; freedom, reason, and responsibility; development, identity and individuality; exchange and justice, etc. Full course. Semesters 1, 2. Mr. Sampson.

110. INTRODUCTION TO FEMALE STUDIES.

An overview of the problems, issues, and research on sex role dichotomization and the bio-social systems which produce and maintain them. While particular emphasis will focus on material from sociology and other relevant social sciences, topics from

the humanities and the biological sciences will also be considered.

Full course, Semester 1.

Ms. Sacks.

120. INTRODUCTION TO SOCIAL ANTHROPOLOGY.

An analysis of primitive society with a focus on social structure. The emphasis will be upon the development of a comparative perspective. The latter part of the course will explore phenomenological and existential anthropology and its implications for understanding other cultures. Full course, Semester 1. Mr. Gerber.

170. SOCIOLOGICAL RESEARCH METHODS.

This course will provide a general introductory survey of various methods employed in social scientific inquiry including, for example, the sample survey, interviewing, questionnaire approaches, experimental methods, etc. The course will examine general issues involved in research design and research evaluation as well as issues involved in selecting methods to suit particular research problems and questions. Ms. Stanko. Full course, Semester 1.

200. DIRECTED READINGS IN SOCIOLOGY.

Variable credit, Semesters 1, 2.

Staff.

201. SPECIAL PROJECTS IN SOCIOLOGY.

Variable credit, Semesters 1, 2.

Staff.

202. WORCESTER COMMUNITY STUDY.

The Worcester Community Study is a research seminar oriented to descriptive evaluation and action research on any facet of the social structure of the Worcester community. Students who wish to add a research dimension to their special projects, internships, and practicums are encouraged to participate in this seminar. Participants in the seminar will be expected to help coordinate small research teams engaged in a long-term study of the Worcester community.

Full course, Semester 1.

205b. WORKSHOP IN SMALL GROUP AND INTERPERSONAL PROCESSES: ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.

This is an intensive, unstructured small-group experience designed for students who have completed or are concurrently taking the small-group theory course (291b.) and who now wish to enrich their intellectual knowledge by a direct self-analytic group experience. The class will be organized into an unstructured group and will spend the term examining the material which is generated by this group. The course is offered on a Credit/No Record basis only. Full course, Semester 1. Mr. Sampson.

220a. ETHNOLOGY: CARIBBEAN.

This course will focus upon various problems in the analysis of the Caribbean culture area.

Full course, Semester 2.

Mr. Gerber.

225. SOCIOLOGY OF SEX ROLES.

The focus of the course is on the sex role socialization process. This is considered in relation to social class and caste, cultural variables, institutions, political and psychological effects, and implications.

Full course.

Staff.

226. SOCIOLOGY OF AMERICAN JEWRY.

This course applies several perspectives of sociological analysis to the experience of Jewry in the U.S. Theoretical and empirical materials bearing on these topics and their implication for the future of American Jewry will be discussed. This course may be

useful to students interested in religion, ethnicity, and intergroup relations. Mr. Dashevsky. Full course, Semester 1.

243. POLITICAL SOCIOLOGY.

Politics may, for certain purposes, be seen as the result of structures of sentiment and power from which particular policies and institutions emerge. This course examines, in theory and research, class and political behavior, the political economy of power, sources of conflict and stability in modern society and social movements.

Full course, Semester 2.

Mr. Ross.

244. RACE AND ETHNIC RELATIONS.

The purpose of this seminar is to enable the participants to begin to develop a theoretical framework for analyzing problems of racism and to conceptualize solutions to the problems consistent with the analysis.

Full course, Semester 2.

Ms. Sacks.

245. SEMINAR IN THEORETICAL MODELS IN SOCIAL ACTION.

A critical evaluation of anthropological, sociological, and literary sources and their application to contemporary social problems. Full course, Semester 2. Mr. Gerber.

246. SOCIAL PLANNING AND SOCIAL POLICY.

This seminar will be concerned with the analysis of policy issues related to urban social problems. The seminar will address itself to three major objectives: (1) how social policy is formulated; (2) how social problems are analyzed from the perpective of the policy makers; (3) how social policy addresses problems of social importance in urban society. The students will be introduced to the literature of the field, and will be given opportunities to analyze specific urban social problems. Staff. Full course.

247. URBAN SOCIOLOGY.

The ethnic and other communities of the big cities will be examined through the literature of historical and community studies; these materials will provide the basis for interpreting urbanism and the politics of the recent period. The political machines, the functions of social policy, and the problems of our big cities are some of the broader issues discussed. Full course, Semester 1. Mr. Ross.

250. CRIMINOLOGY.

The course constitutes a survey of who the criminal justice system processes, how it does it, and what social science has learned about the social nature of crime. Full course, Semester 1. Ms. Stanko.

255. SEMINAR IN THE FAMILY.

Critical, historical, and feminist perspectives on the institutions of marriage and the family. The seminar will consider comparative, historical, and theological analyses of the social role of women vis-a-vis the role relationships inherent in marital institutions.

Full course, Semester 2.

Ms. Sacks.

256. SOCIAL STRATIFICATION. Not offered, 1976-77.

An analysis of the major dimensions of social stratification in contemporary society. Economic class, social status, power, class consciousness, social mobility, and the consequences of class difference.

Full course.

Mr. Peck.

263. DEVIANCE.

This course has two fundamental objectives: (1) to introduce the student to the literature, research, and conceptual problems in

the field of deviance; and (2) to examine conceptual frameworks out of which contemporary definitions of deviance emerge.

Full course, Semester 2.

Ms. Stanko.

264. JUVENILE DELINQUENCY.

This course will center around delinquency and criminal behavior. Its major purpose is to increase students' sensitivity to some of the major factors affecting delinquent behavior and to introduce some of the main theories explaining it.

Full course, Semester 2.

Ms. Stanko.

265. SOCIAL MOVEMENTS.

Not offered, 1976-77.

This course will discuss the general characteristics of modern social movements with the New Left and other protests of the sixties as extended case examples. Problems of recruitment, organization, and ideology will be analyzed. The form of the course will depend on the size of registration.

Full course.

Mr. Ross.

270. STUDY OF LIVES.

The focus of this course is upon the study of lives, the unique intersection of personal biography and cultural history that can best be appreciated through the careful and intensive examination of a human life. Students will conduct an in-depth study of two lives: their own, through the development and presentation of their autobiography; and the life of a person they select for study and presentation during the term. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Sampson.

271b. FIELD METHODS: CONCEPTS AND ISSUES IN ANTHROPOLOGY. (Indivisible)

This course will deal with theoretical issues in the conduct of anthropological field work, including an intensive survey of the literature, problems, and prospects. In addition, instruction and use of camera, tape recording equipment, etc. involved in field work will be covered.

Full course, Semester 1.

Mr. Gerber.

271c. FIELD METHODS: PRACTICUM IN ANTHROPOLOGY.

This course will include on-site field experience where students will obtain and conduct a limited field research project.

Prerequisite: 271b., Concepts and Issues in Anthropology.

Full course, Semester 2.

Mr. Gerber.

282. INDUSTRIAL SOCIOLOGY.

Not offered, 1976-77.

This course is concerned with the study of social relations in the industrial setting. The course will cover the research tradition beginning with the human relations school and extending through the sociology of work and occupations. A special focus of the course will be on workers' organizations and the sociology of labor.

Full course.

Mr. Peck.

290a. SOCIOLOGICAL THEORY: CLASSICAL.

Beginning with the European writings of the early sixteenth century and extending to the expression of social theory at the turn of the twentieth century, the course focuses on the way in which certain social themes dealing with human relationships were treated in the classic works of outstanding European social philosophers and theoreticians. These social themes refer to issues of value consensus and social conflict, established power and rebellious disorder, the social person and the alienated human. Oriented to a sociology of knowledge perspective, the range of ideas beginning with Machiavelli and More and ending with Weber and Simmel are considered in the context of the history and social structure of national capitalism as it emerged in the specific settings of Italy, England, France, and Germany. Full course, Semester 1.

290b. SOCIOLOGICAL THEORY: CONTEMPORARY.

Social developments in the United States during the post World War II epoch have given rise to a variety of theoretical views in the field of sociology. The diversity of approach and fragmentation of theoretical stance will be related to significant changes in social structure and political economy of the United States during the past three decades. The relationship between social theory and political ideology will be considered throughout.

Full course, Semester 2.

Mr. Peck.

291b. SOCIAL PSYCHOLOGICAL THEORY: SMALL GROUP AND INTERPERSONAL PROCESSES.

This is an intensive course designed to introduce students to some of the major concepts and theories which have been developed to understand small-group and interpersonal processes. The formulations of persons such as Freud, Sullivan, Mead, Bion, exchange theorists, and others will provide the major focus of the course.

Full course, Semester 1.

Mr. Sampson.

293. ANTHROPOLOGICAL THEORY. Not offered, 1976-77.

A critical evaluation and examination of the philosophical bases for anthropological inquiry. Consideration will be given to such areas as the rationale for cross-cultural studies, the effects of Western cognition on the development of anthropology as a discipline, French structuralism, and existential and phenomenological modes of inquiry.

Full course.

Mr. Gerber.

294. INTERNSHIP IN SOCIOLOGY.

Supervised field training in community and organized settings. This is the equivalent of from two to four full courses in sociology.

Variable credit, Semesters 1, 2,

Staff.

297a. TOPICS IN SOCIOLOGICAL THEORY: THE PERSON AND THE SYSTEM.

Everywhere men and women strive for love and personal acceptance, but they receive these only at certain places and times. This course is primarily an analysis of theories or rational efficiency and communal or primary needs in modern society. It compares the orthodox theories of Weber and Parsons with the Marxist paradigm of alienation.

Full course, Semester 2.

Mr. Ross.

297b. TOPICS IN SOCIOLOGICAL THEORY: STUDIES IN MARXISM. Not offered, 1976-77.

This seminar will examine some of the basic themes of Marxism through close study of a major primary source, supplemented with class presentations and secondary reading. The Marxian theoretical and philosophic origins will be explored, and the political economy of Marxism will be introduced.

Full course.

Mr. Ross.

298. SENIOR SEMINAR IN SOCIOLOGY.

Not offered, 1976-77.

This course consists of a year-long seminar devoted to the examination of major themes and issues in sociology. It is the equivalent of two full courses in sociology. Double course. Staff.

299. THESIS-SEMINAR.

The course combines seminar with independent study on selected topics. The course is intended for senior sociology majors. Each member of the sociology faculty offers a set of topics and thesis issues; students should sign up with the faculty person whose areas of interest are most congruent with their own. Emphasis in the course is upon independent work

undertaken with faculty guidance and supervision. It is possible to take this as a year-long course that results in the submission of a thesis, thereby making selected students eligible to be considered for departmental honors in sociology.

Four full course credit., Semesters 1, 2. Staff.

Geography 171. SOCIAL GEOGRAPHY.

Refer to course description under Geography.

Ms. Buttimer, Ms. Martensson.

Spanish

(See Department of Foreign Languages and Literatures.)

Theatre Art

(See Department of Visual and Performing Arts.)

Visual and Performing Arts

ART

PROGRAM FACULTY

Donald Krueger, M.F.A., Associate Professor of Art, Associate Chairman for Art

Samuel P. Cowardin, III, Ph.D., Associate Professor of Art History

Peter M. Barnett, Ph.D., Assistant Professor of Art History Sante Graziani, M.F.A., Associate Professor of Art (Affiliate)

UNDERGRADUATE PROGRAM

Courses in art provide opportunities for students to develop understanding and sensitivity in the visual arts of the past and present, to acquire resources for visual thinking and communication, and to engage in personal creative expression. In the Program of Advanced Studies, students may major in art history or studio art, or a combination of the two, or they may select art courses as a valuable part of their education in the humanities or social or physical sciences.

The art history major can serve as a meaningful focus for a liberal education or provide a foundation in subject matter and method as preparation for graduate study. It offers opportunity for concentration in areas such as Renaissance or modern art history and permits independent study in areas of special interest. The art history major includes studio work, or a student may elect a combined studio and history major.

Specific requirements for the various art history options are continually reviewed by the faculty. At time of publication of this catalog, admission to the art history major program requires a grade of at least a B in Art 11. (or equivalent courses) and staff

approval. Students must, at present, complete six courses in art history beyond the introductory level, four studio courses, two courses in related areas (film studies, theatre arts, music and aesthetics), and a senior project in art history. The collections and library of the Worcester Art Museum are available to Clark art students. Requirements for the combined art history/studio major may be obtained from the program chairman or staff.

The art history major can, with appropriate courses in studio, theory, and design, serve as preparation for undergraduate or graduate study in architecture.

The studio art major is designed to meet a number of student needs and interests: the satisfaction of personal curiosity about art; significant involvement in the creative process; or preparation for graduate study and a professional career in art, design, education, or therapy.

The majority of courses for the studio major may be taken at the School of the Worcester Art Museum under the direction of its faculty of professional artists. Clark students are selectively admitted to study at the school by portfolio evaluation and permission of the art program chairman, and are expected to observe the regulations of the school. Museum school courses are open only to studio majors.

Specific requirements for various studio options or tracks may be had from the program chairman. In general, the studio major must complete at least 10 studio courses, two courses in art history and two courses in related areas. Depending upon professional interest, courses in addition to the minimum number are required.

There is opportunity for independent studio study, special projects in visual art, and self-designed programs. Students may concentrate in film/video as part of the studio majors, and those interested in elementary or secondary teaching or art therapy may participate in the Department of Education's internship program as preparation for certification.

Studio and art history courses are available to non-majors and to students with combined or self-designed majors. Certain courses at the Worcester Craft Center are also available to non-majors.

Exhibitions of contemporary art and the work of Clark students are presented throughout the year in the Little Gallery, and advanced students may exhibit in the Goddard Library. The on-campus Craft Studio and the Art Association, a student organization open to all interested persons, offer opportunities for extra-curricular involvement in art and craft activities.

COURSES

11. INTRODUCTION TO WESTERN ART.

Ideally the first half of a two-semester sequence, this course covers classical, medieval, and early Renaissance art. The first several weeks are devoted to an examination of basic elements in the visual arts, and to certain fundamental matters of terminology and approach. Selected works are then discussed as exemplars of style and artistic quality in the context of the leading ideas of their respective eras. Because of the selective processes of time, architecture and sculpture must receive slightly greater emphasis than painting. Students are encouraged to observe original works in local museums. Full course, Semester 1.

11. INTRODUCTION TO WESTERN ART II.

A continuation of 11., Introduction to Western Art I. The course will cover the history of Western art from the Renaissance up to the present, emphasizing painting, but touching on sculpture and architecture. Emphasis will be placed on characteristics of individual and period style within the works themselves, the primary aim being to develop sensitivity to pictorial elements. In addition, the social and historical background of the artists will be considered where appropriate. Evaluation will be based on ability to analyze and discriminate visually, rather than on

memorization of facts. Will offer a Sunday trip to the Boston museums.

Full course. Semester 2.

Mr. Barnett.

12. SURVEY OF PAINTING.

A general introduction to the art of painting, covering a wide range of examples from East and West. The approach is historical only in that the material is taken up more or less in historical sequence and the stylistic development is viewed against the background of changing ideas. But matters of technique, design, and expression receive due attention. Full course, Semester 2.

Mr. Cowardin.

88. DIRECTED READINGS.

Semesters 1, 2, Modular Term.

Staff.

89. SPECIAL PROJECTS IN VISUAL ARTS.

Independent studio art study. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2, Modular Term. Mr. Krueger.

98. SENIOR PROJECT IN STUDIO ART.

Full course, Semesters 1, 2.

Mr. Krueger.

99. SENIOR PROJECT IN ART HISTORY.

Individual research culminating in a major paper. Periodic meetings with the staff to evaluate and discuss progress. Required of all majors in art history.
Full course, Semesters 1, 2. Staff.

108. SEPULCHRAL ART.

The art of the tomb from ancient times through the eighteenth century, concentrating on the classical, medieval, and Renaissance traditions, but touching also on early American tombstones. Tomb sculptures are studied as works of art, as manifestations of style, and as reflections of attitudes toward death in different cultures and periods.

Full course, Semester 1. Mr. Cowardin.

115. SELECTED SUBJECTS IN MEDIEVAL ART.

A brief overview of the main phases of medieval art is followed by a series of student reports intended to illuminate specific subjects or deal with special problems. A maximum of student participation, each member of the course being responsible for at least two reports. Enrollment limited. Prerequisite: one course in art history.

Full course, Semester 2.

Mr. Cowardin.

120. ITALIAN RENAISSANCE ART: 15TH CENTURY.

The course is concerned with art in the context of developing humanism and rationalism, mainly in Florence, but with excursions into northern Italy. The aim is to delineate the character of early Renaissance art and to distinguish its principal stylistic currents as they move toward confluence in the High Renaissance. Particular attention is given to the ideas of Alberti and some of the intellectuals in the circle of the Medici. Architecture, sculpture, and painting receive approximately equal emphasis.

Full course, Semester 1.

Mr. Cowardin.

121. ITALIAN RENAISSANCE ART: 16TH CENTURY.

The great figures of the High Renaissance art in Florence and Rome are the focus of the first part of the course. It will try to define, through readings and discussion, the special aesthetic qualities of this particular "classic moment," seen against the political and intellectual background. The course must also confront the difficult questions relating to the evolution of Mannerism, as well as the definition of this phenomenon. Finally, the scene will shift briefly to Venice. Class participation is encouraged and the coverage is kept flexible enough to accommodate it.

Full course, Semester 2.

Mr. Cowardin.

122. MICHELANGELO AND THE HIGH RENAISSANCE.

Not offered, 1976-77.

Concentrates of Michelangelo's work in architecture, sculpture, and painting, taking into account personal, religious, intellectual, and political influences on his life. His style will be viewed in relation to the Renaissance background as well as the Mannerist trends of the sixteenth century.

Full course.

Mr. Cowardin.

123. VENETIAN ART.

Not offered, 1976-77.

Art in the Veneto from the twelfth century through the eighteenth, with emphasis on the Renaissance. Seeks to define the qualities that distinguish the work of this region, especially in painting. The major figures, such as Palladio and Titian, will be studied in depth in the context of Venetian humanism and other elements of contemporary culture.

Full course.

Mr. Cowardin.

124. NORTHERN RENAISSANCE PAINTING.

Concentrates on painting in Flanders from Van Eyck to Bruegel. Style, technique, and expression in representative works will be viewed in relation to their own background and to contemporary work in Italy. A secondary focus will be on the impact of Italian influence upon the art of France, Germany, and the Netherlands in the sixteenth century.

Full course, Modular Term.

Mr. Cowardin.

130. 17TH CENTURY — THE HIGH BAROQUE.

Not offered, 1976-77.

The course will deal with the principal masters of European painting in the seventeenth century. It will emphasize close visual analysis of particular works in order to isolate the expressive intention of each artist as reflected in devices and techniques he employs. There will be a secondary emphasis on the social circumstances which underlie the broad range of national styles.

Full course.

Mr. Barnett.

131. 18TH CENTURY — ROCOCO TO REVOLUTION.

Not offered, 1976-77.

The course is a continuation of the above, but the emphasis will be reversed. There will be a primary preoccupation with relationships between the art of the period and the social circumstances which produced it. There will be an attempt to relate events in painting both to political and social events and to parallel currents in the arts in general. Discussion will cover the broad social and philosophical questions raised by the painting examined.

Full course.

Mr. Barnett.

140. 19TH CENTURY PAINTING — ROMANTICISM AND REALISM.

The course will cover European painting from the French Revolution to 1900, with an emphasis on painting in France and England. Stress will be placed on the social and intellectual context from which the art emerged, as well as upon internal developments in style. Special attention will be paid to stylistic and intellectual directions which led up to and through impressionism toward the emergence of modern art. Emphasis will also be placed upon the aesthetic ideas underlying successive shifts in style, and upon allowing students the opportunity to deal with these ideas in written work. Full course, Semester 2.

160. ELEMENTS OF ARCHITECTURE.

The course will consider architecture as a form of expression, dealing with the major elements of architectural language generically rather than historically. Topics covered will include form, structure, space, and function. The major historical styles will be referred to as appropriate to illustrate concepts being

discussed. The course will also consider architectural design from a conceptual rather than a technical viewpoint, and will involve students in their own designs. The emphasis will be on understanding and pursuing a rational design process, rather than on the success of the design itself by practical or aesthetic standards. Student work will be an attempt to resolve operationally the tension between the architect's roles as master of expression and servant of human needs. It will include a series of projects, both written and graphic; there will be no examination.

Full course, Semester 1.

Mr. Barnett.

161. 20TH CENTURY ARCHITECTURE.

The course will cover developments in European and American architecture from the end of the nineteenth century to the present. It will begin with the ideas and works of the major figures: Sullivan, Wright, Gropius, Mies van de Rohe, and Le Corbusier. Emphasis will be not only on the development of style, but also on the social basis of their work. The course will then consider contemporary movements in architecture, emphasizing developments which redefine the direction established by the International School of the 1920's. In addition to the work of contemporary architects, futuristic visions of architecture and urban design will be looked at and evaluated. As much as possible, first-hand experience of works in the immediate area will be included.

Full course, Semester 2.

Mr. Barnett.

162. PROJECTS IN URBAN DESIGN.

This course will involve interested students in the planning and direction of the course, and thus cannot be certainly defined as to scope and content. Tentatively, it will involve students in a design project located in the immediate Worcester area, and may involve both theoretical studies and field work in addition to design. It will center around individual or group projects, coordinated with meetings of the whole group. Required work to be established by the class.

Full course, Modular Term.

Mr. Barnett.

168. DRAWING: HISTORY AND TECHNIQUES.

The course is intended to provide the student both with an historical understanding of the development of style, technique, and medium in drawing, and with direct first-hand experience. In addition to classroom presentation of historical developments, students will be exposed to original works in the collections of nearby museums, and will be involved in studio exercises paralleling their classroom experience. There will be no expectation of drawing skill or of previous studio experience; work will be judged in relation to the understanding it reflects of historical trends. In addition to exercises there will be at least one written work expected on a topic related to historical style or technique. Does not satisfy studio major requirement.

Full course, Semester 1.

Mr. Barnett.

170. VISUAL DESIGN I — TWO-DIMENSIONAL FORM AND COLOR.

A studio course on campus designed to introduce the student to the nature of visual language and the creative process and to develop abilities for original creative thought and action. Basic two-dimensional studio problems in organization, color relationships, form, space, design, and visual communication are presented. Work in addition to the scheduled studio hours will be required. Open to non-majors.

Full course, Semester 1.

Mr. Krueger.

171. VISUAL DESIGN II — SPACE AND THREE DIMENSIONS.

A continuation of 170. to include the study of depth and plastic illusion and basic three-dimensional structural principles and forms. 170. is not a prerequisite but is recommended. Open to non-majors.

Full course, Semester 2.

Mr. Krueger.

172. VISUAL STUDIES.

A general designation for a group of one-semester studio courses of varying content designed to encourage the development of expressive and communicative visual arts skills. Opportunity is provided for individual study in traditional, contemporary, and experimental forms and materials. Specific semester topics include: Environmental Space Design, Drawing as Analysis, Expression, Painting, Contemporary Forms, and others to be determined by students' special interests and skills. 170. and 171. or the equivalent are recommended as preparation. Open to non-majors. Enrollment by permission of instructor. Half course, Semesters 1, 2. Mr. Krueger.

173. VISUAL STUDIES.

A continuation of 172. May be repeated for additional credit. Full course, Semester 2. Mr. Krueger.

174.CONTEMPORARY DIRECTIONS.

A studio course, with discussions and museum visits, which will be concerned with a practical, experiential examination of current movements, directions, styles, and attitudes in the visual arts. Specific topics include: the Avant-garde, American Modes, Modern Uses of the Figure, and others to be determined by Modular Term special program requirements. Students will be expected to study in depth, through their own studio work, a specific contemporary style or to experiment with a number of modes. Enrollment by permission of the instructor. Formerly Art 142. May be repeated for additional credit.

Full course, Modular Term.

Mr. Krueger.

176. DRAWING: PERCEPTION AND SELECTION.

This will be a course in drawing from nature, including still-life, the human figure, portraiture, and landscape. The emphasis will be on the development of skills in seeing, and in recording what you see selectively. There will be no expectation of previous experience, or of special talent; evaluation will be entirely on the basis of effort and seriousness of interest. Drawing as expression, or the exploration of media, will not be emphasized. Half course, first half, Semester 1.

188. PHOTOGRAPHY. (at the Craft Center)

A beginning course and an intermediate/advanced program. Practice in the techniques and aesthetics of photography as a medium or personal expression. Lectures, field trips, and discussions supplement studio and dark room work. A variable setting 35mm or 2-1/4 x 2-1/4 camera is required. Materials fee. Full course, Semesters 1, 2. Craft Center Staff.

188. PRINTMAKING. (at the Craft Center)

A course designed to familiarize the student with one or more of the graphic techniques: etching, engraving, woodcut, silkscreen. For intermediate and advanced students, the course will emphasize technique and quality in printmaking. Materials fee.

Full course, Semesters 1, 2.

Craft Center Staff.

188. CERAMIC DESIGN. (at the Craft Center)

An exploration of form, texture and color using basic clayworking methods of hand-forming, coil building, and slab construction. Emphasis is on developing an awareness of the elements of sculptural design rather than an attempt to produce utilitarian pottery. Intermediate and advanced students may be accepted by permission of the instructor or advanced sections may be offered.

Full course, Semesters 1, 2.

Craft Center Staff.

199. MUSEUM SCHOOL STUDIO COURSES

A general designation for all courses at the School of the Worcester Art Museum. Open only to studio art majors by

portfolio evaluation and permission of the art program chairman.

These are full-year courses and may not be entered in mid-year.

Drawing and Painting I Visual Design I

Three-dimensional Design I Drawing and Painting II

Life Drawing and Painting I
Commercial Art Design I

Technics

Illustration I

Sculpture I

Photography I

Painting III

Figure Drawing (Half course)

Illustration II

Three-dimensional Design II

Graphics I Photography II

Sculpture II

Life Drawing and Painting II
Commercial Art Design II

Independent Study

See the Museum School catalog and schedule for complete course descriptions and listings.

Double courses, Semesters 1, 2. Museum School Staff.

VPA 89. INTER-DISCIPLINARY CREATIVE WORKSHOP.

(See course description under MUSIC.)

FILM STUDIES

PROGRAM FACULTY

Anthony W. Hodgkinson, Associate Professor of Film Studies; Associate Chairman for Film Studies Program Charles H. Slatkin, M.F.A., Lecturer in Film/Video Production

UNDERGRADUATE PROGRAM

The program in film studies is designed to help the student acquire a critical understanding and appreciation of our youngest art. A full understanding of film involves two related activities: (1) the viewing, discussion, and evaluation of a large number of significant works; and (2) initial attempts, through simple film and/or video production exercises, to express oneself in a technically demanding medium.

The emphasis of most courses is on the viewing, discussion, and assessment of films; the courses are designed to have particular reference to the historical and social impact of film, its aesthetics and techniques. The production courses are deliberately set at an introductory, elementary level; there is no intention of providing a professional training in either film or video.

There is no major in film studies *per se* offered at present, but attention is directed to the possibilities both of a student-designed major, and (for art majors) a studio major, with emphases on film in its relation to other liberal arts.

COURSES

10. INTRODUCTION TO FILM STUDIES I: THE ELEMENTS OF FILM.

A survey of the varied techniques used in the making of all screen communications (film, television, video): the invention of the language; silent film narrative; editing; music; speech and sound. Lecture/screenings; analyses of two or three feature films, term papers, and readings. Either this course or 15. is a prerequisite for other film studies courses. Open to freshmen. Full course, Semester 1.

15. INTRODUCTION TO FILM STUDIES II: THE STUDIO TEAM.

In a series of lecture/screenings, the contributions to the final film of each of the major members of the studio team — writer,

director, actor, etc. — are examined, and two or three feature films are analyzed in detail. Term papers and readings. Either this course or 10. is a prerequisite for other film studies courses. Open to freshmen.

Full course, Semester 2. Mr. Hodginson.

11. ASPECTS OF FILM HISTORY.

Under this general heading, various facets of the 75 years of cinema will be explored in a series of lecture/screenings, and discussions. Content varies each time the course is taught, and it may be taken more than once. This year, the intention is to survey the history of Italian Neo-realism and the early works of Fellini. Term papers and readings. Prerequisites: 10. and 15. and permission of instructor.

Full course, Semester 2. Mr. Hodgkinson.

12. FILM AND SOCIETY. Not offered, 1976-77.

A thematic exploration of the ways the cinema has reflected/affected its contemporary society. Content varies each time the course is taught, and it may be taken more than once. Lecture/screenings and discussions, term papers, and readings. Prerequisites: 10. or 15. and permission of instructor.

Mr. Hodgkinson.

13. GREAT FILM DIRECTORS.

A series of lecture/screenings in which the canon of work of various significant directors will be studied and assessed. The director varies each time the course is taught, and it may be taken more than once. Directors previously dealt with have include Luis Buñuel, Stanley Kubrick, and Ernst Lubitsch. This year, attention will be paid to the work of Billy Wilder. Prerequisites: 10. or 15. and permission of instructor. Full course, Semester 1.

14. LITERATURE OF FILM: RELATIONSHIPS BETWEEN LITERATURE AND FILM.

A course in which some of the significant books of film theory, aesthetics, history, etc. are studied in detail and in depth. The course this year will be taught jointly with the Department of English and the emphasis will be on adaptations of literature to film. (See also English 14.) Prerequisite: 10. or 15.

Full course, Semester 2. Mr. Hodgkinson, Mr. Elliott.

88. DIRECTED READINGS.

A sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2, Staff,

89. SPECIAL PROJECTS.

Independent research on a particular problem or an original creative project directly supervised by the instructor.

Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2. Staff.

100. ELEMENTARY FILM/VIDEO PRODUCTION.

A practical workshop in super-8mm film and half-inch video production. Student work will be analyzed and criticized. Prerequisite or co-requisite: 10. or 15.
Full course, Semesters 1, 2. Mr. Slatkin.

101. ADVANCED FILM/VIDEO PRODUCTION.

A practical workshop in which production both of Super-8mm films and half-inch videotapes may be developed on a slightly more advanced level than Film 100. Prerequisites: 100. and permission of instructor.

Full course, Semester 2.

Mr. Slatkin.

VPA 89. INTERDISCIPLINARY CREATIVE WORKSHOP.

(See description under Music.)

PROGRAM FACULTY

Relly Raffman, A.M., George N. and Selma U. Jeppson
Professor of Music, Department Chairman
Gerald R. Castonguay, Ph.D., Associate Professor of Music
Wesley M. Fuller, M.Mu., Associate Professor of Music
Susan Clickner, B.M., Assistant Professor of Voice (Affiliate)
Evelyn Fuller, M.Mu., Assistant Professor of Piano (Affiliate)
Diana Raffman, B.A., Assistant Professor of Flute (Affiliate)
David Sussman, B.A., Assistant Professor of Guitar (Affiliate)
Barbara Levy, B.M., Director of Choral Activities
Allan Mueller, Affiliate in Piano and Jazz Studies

UNDERGRADUATE PROGRAM

The department offers courses designed to teach students how to listen to music intelligently, to develop a comprehension of music on its own terms, and to acquaint students with representative works from various periods of music history.

The goals of the music program are to provide a well-ordered-and-taught curriculum emphasizing those areas of music in which the members of the faculty have considerable expertise and which afford a well-rounded slate of studies for majors, namely: Theory, Composition, History, and a restricted number of performance specialties. In addition, it seeks to provide a diversity of experience in the performance of chamber, orchestral, and choral music not only for the music major but for the student body in general.

The music major includes the following courses:

Prerequisite: Music 120. (Rudiments of Music) or placement examination.

Theory: 121., 122., 123., 124., 125. Music History: 12., 13., 14., 15., 119.

Performance: a minimum of four semesters in 107., 117., 127. or 137.

Related areas: a full course in fine arts, theatre art, or film studies; or a full course in aesthetics.

A minimum essentials test, including sight-singing and dictation at a level of proficiency necessary for the successful pursuance of the major, must be passed during the sophomore year. A keyboard proficiency examination must be passed during the junior year. As a senior, the music major, with the permission of the department, may elect two full courses of tutorial work in one or more of the following areas: Music History (118.), Composition (128.) or Theory (138.). Those wishing to concentrate in a performance area must pass an audition at the beginning of the junior year. In addition, all majors must complete nine full courses outside of Philosophy 149. (Aesthetics), courses in visual and performing arts, and literature. Individual instruction in piano, jazz piano, flute, guitar, violin, and voice will be offered for credit during the 1976-77 academic year. Arrangements for lessons should be made at the music office during the registration period. Practice rooms are available without charge.

COURSES

10. INTRODUCTION TO MUSIC.

Designed for the non-major, this course is a prerequisite for entrance into all music history or survey courses. No credit towards the major is allowed. Open to freshmen. Full course, Semesters 1, 2.

110. INTRODUCTION TO MUSIC.

Special topics in music pedagogy. For majors only. Half course, Semesters 1, 2. Staff.

120. RUDIMENTS OF MUSIC.

An introduction to the fundamentals of music. no previous experience is necessary. Notation, ear-training, sight-singing, score reading, and elementary melodic and harmonic organization. Satisfies prerequisite for credit in Music 18. and entrance to Music 121.

Full course, Semester 2. Mr. Fuller.

121. PRIMARY THEORY.

A study of the structure of tonal music. Analytical and compositional problems in homophonic, monodic, and polyphonic textures. Basic orchestration. Ear-training, sight-singing, and conducting. Prerequisite: 120. or entrance examination (given at first class meeting). Offered through the year. Divisible course.

Full course, Semesters 1, 2.

Mr. Raffman.

12. MEDIEVAL AND RENAISSANCE PERIODS.

Beginning with early Christian chant, this survey includes a study of the Medieval song and motet, the growth of polyphonic secular and sacred music extending through the sixteenth century, culminating with the study of the Renaissance mass and madrigal. Works are performed in class and scores provided for the majority of works studied. Prerequisite: 10., 120., or permission. Offered in alternate years.

Full course, Semester 1.

Mr. Castonguay.

122. THEORY: MODAL COUNTERPOINT.

Contrapuntal styles in two-, three-, and four-part textures of major composers of the fifteenth and sixteenth centuries are analyzed and used as a foundation for compositional assignments. Twentieth-century modal polyphony is also studied. Prerequisite: 121. Offered in alternate years. Full course, Semester 1. Mr. Fuller.

13. BAROQUE PERIOD.

A survey of music from 1600 to 1750. This course deals with the origins and growth of vocal and instrumental genres (opera, oratorio, cantata, sonata, concerto, etc.) and the wide variety of formal types closing with the works of Bach and Handel. When possible, works are performed in class and scores provided for some of the works studied. Miniature scores will be required for selected works. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years.

Full course, Semester 2.

Mr. Castonguay.

113. J.S. BACH AND HIS MUSIC. Not offered, 1976-77.

This course focuses on the study of Bach and his music. It investigates the social, historic, and cultural setting of Bach's era, and, in particular, it encompasses an intense study of his music including the early cantatas and organ works, the instrumental music from his Cothen period, and, finally, the mature cantatas of his Leipzig years. When possible, works will be performed in class and scores will be provided for the majority of works studied. Prerequisite: 10. or 120. Offered in alternate years.

Full course.

Mr. Castonguay.

123. THEORY: 18TH-CENTURY COUNTERPOINT.

Compositional and analytical problems in the eighteenth century contrapuntal idiom: two and three-part inventions, canon and fugue. The thoroughbass practice of the seventeenth and eighteenth centuries is explored. Final project: the composition of a three or four-voice fugue. Prerequisite: 121. Offered in alternate years.

Full course, Semester 2.

Mr. Raffman.

14. CLASSICAL AND ROMANTIC PERIODS.

Not offered, 1976-77.

A survey of music from 1750 to 1900. Beginning with a survey of Italian, French, and Viennese styles, the course focuses on the

music of Mozart, Haydn, and Beethoven, and continues with the study of selected works from major composers of the nineteenth century. When possible, works are performed in class. Miniature scores are required for some of the works studied. Prerequisite: 10., 120. or permission of instructor. Offered in alternate years. Full course.

Mr. Castonguay.

114. BEETHOVEN: THE MAN AND HIS MUSIC.

Not offered, 1976-77.

The study of Beethoven as man and artist. This course explores the social and historical background of Beethoven's Vienna and centers on the study of selected works from the important genres (symphony, chamber music, and sonata) throughout Beethoven's career. Miniature scores are required for a number of works studied. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years.

Full course.

Mr. Castonguay.

124. THEORY: 19TH-CENTURY PRACTICE.

Not offered, 1976-77.

Problems in analysis, composition, and orchestration in the chromatic style of the nineteenth century. Works of Beethoven, Chopin, Schumann, Wagner, and Brahms are analyzed and used as compositional models. As well, the harmonic language of Impressionism, with its emphasis on scalar control, is examined. Prerequisite: 121. Offered in alternate years. Full course.

Mr. Raffman.

15. TWENTIETH-CENTURY MUSIC. Not offered, 1976-77.

A survey of early twentieth-century masterworks. Representative composers: Debussy, Ravel, Prokofiev, Stravinsky, Bartok, Hindemith, Schoenberg, Berg, and Webern. Offered in alternate years. Prerequisite: 10. or 120.

Full course. Mr. Raffman.

125. THEORY: 20TH-CENTURY PRACTICE.

Not offered, 1976-77.

Compositional techniques of major twentieth-century composers are studied and used as a basis for analysis and compositional assignments. Offered in alternate years.

Prerequisite: 124. or permission of instructor.

Full course.

Mr. Fuller.

16. THE MUSIC OF JOHANNES BRAHMS.

Brahms as man and musician in the latter half of nineteenth-century Vienna. Detailed analyses of his chamber and orchestral music, lieder and keyboard works. Whenever possible, works will be performed live in class. Although scores will be provided in the majority of cases, students will be expected to provide several of their own purchase for extended study. Prerequisite: 10. or 120.

Full course, Semester 1.

Mr. Castonguay.

18. PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE.

Offered in 1976-77, piano, jazz piano, voice, flute, guitar, and violin. One quarter course credit per semester, to be held in escrow until a half course is earned and prerequisite passed. Prerequisite for credit: successful completion of Music 120. or passing an entrance examination to Music 121. (given in September and January).

Quarter course, Semester 1.

Quarter course, Semester 2.

Staff.

19. SURVEY: WORLD MUSIC.

Musical styles of cultures not in the Western European tradition. Specific topics vary each time the course is presented, but music of India, Africa, and the American Indian will be included in 1977. Prerequisite: 10. or 120. Offered in alternate years.

Full course, Semester 2. Mr. Fuller.

119. SURVEY: MUSIC OF THE AVANT GARDE.

Stylistic developments of European and American music composed since 1950. Composers: Stravinsky, Stockhausen, Cage, Carter, Boulez, Messiaen, and others. Offered in alternate years. Prerequisite: 15. or permission of instructor. Full course, Semester 2.

130. JAZZ WORKSHOP.

Those entering the workshop must also register in 131. and are expected to have had practical experience in jazz performance. Offered in alternate years. Prerequisite: permission of instrustor.

Half course, Second half, Semester 1. Mr. Raffman, Mr. Mueller.

131. JAZZ THEORY.

The progressive harmonic fabric of classical jazz is examined as well as the scalar structures of the avant garde. Aural analysis and compositional exercises. Prerequisite: 121. or permission of instructor. Offered in alternate years.

Full course, Semester 1.

Mr. Raffman.

132. HISTORY OF JAZZ.

A study of the evolution of jazz style from the early twentieth century to the 1960's: Ragtime, Dixieland, the Blues, Swing, Bop, Cool, and Avant Garde. Research paper and final examination. Offered in alternate years.

Half course, First-half, Semester 1. Mr. Raffman.

118. SENIOR TUTORIAL IN MUSIC HISTORY.

Majors only. Prerequisite: permission of instructor. Full course, Semesters 1, 2. Staff.

128. SENIOR TUTORIAL IN COMPOSITION.

Majors only. Prerequisite: permission of instructor. Full course, Semesters 1, 2. Staff.

138. SENIOR TUTORIAL IN THEORY.

Majors only. Prerequisite: permission of instructor. Full course, Semesters 1, 2. Staff.

148. SENIOR TUTORIAL IN PERFORMANCE.

Majors only. Audition must be passed at beginning of junior year.

Full course, Semesters 1, 2.

Staff.

90. DIRECTED STUDIES IN ELECTRONIC MUSIC.

Students are given basic instruction in studio techniques and special times for individual studio work. Several group meetings are arranged for listening to and discussion of significant compositions. The Clark Studio is equipped with a Buchla Synthesizer.

Variable credit, Semesters 1, 2.

Mr. Fuller.

VPA 89. INTER-DISCIPLINARY CREATIVE WORKSHOP.

An inter-media group comprised of faculty and former students and functioning throughout the academic year. Students who have had training in film, video, art, or music and who are ready to enter into creative projects may work within the program of their interest. The group presents experimental workshops as well as a full production. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2. Staff.

The following musical activities are open to all students, graduate and undergraduate alike. Auditions are held during the first week of Semester 1. Although no credit is awarded, the transcript of any undergraduate who completes the assigned performance requirements will include a listing of the particular activity for which he or she was registered.

107. CHAMBER MUSIC ENSEMBLES.

Semesters 1, 2. Mr. Fuller, Mr. Raffman.

117. CONCERT CHOIR.

Semesters 1, 2. Ms. Levy.

127. CHORAL SOCIETY.

Semesters 1, 2. Ms. Levy.

137. ORCHESTRA.

Semesters 1, 2. Mr. Castonguay.

THEATRE ART

DEPARTMENT FACULTY

Carol Sica, M.F.A., Associate Professor of Theatre Art, Associate Chairman for Theatre Art Neil R. Schroeder, Ph.D., Associate Professor of Theatre Art Donna Allinson, M.A., Lecturer in Theatre Art

UNDERGRADUATE PROGRAM

The program in theatre art is designed to give students both practical and scholarly experience in all phases of theatre. Courses are open to qualified undergraduates who are willing to devote the time and energy which are necessary for their completion. They are designed to develop theatre artists with a sound humanistic education and to prepare those who are interested for graduate training in educational and professional theatre.

Students who take courses in theatre art will be expected, as part of their course work, to participate in production of the Theatre Art Program at Clark University. Other students are invited to try out for roles or assume technical positions as an extra-curricular activity.

Theatre courses other than those offered at Clark are available through the Worcester Consortium for Higher Education, particularly at the College of the Holy Cross and Worcester State College. Students should consult the listing in the department office at registration time. In most cases, transportation for these courses will be provided by the Worcester Consortium bus.

The General Program: Through the Worcester Consortium and interdepartmentally at Clark, courses are available in the following areas: theatre history and criticism, dramatic literature, theatre education, acting and directing, technical theatre and design, and playwriting. All courses without prerequisites are open to any student on an elective basis, and advanced courses are available on an elective basis to those students who have the necessary prerequisites.

The Theatre Art Major: The major program trains students in the fundamentals of various theatre disciplines and prepares them for further training and experience. Each major should plan to concentrate in one of the following areas: acting and/or directing; technical theatre and design; theatre history, criticism, and dramatic literature. Those who wish to specialize in theatre education should, insofar as their program permits, pick up another theatre concentration as well. Much of the advanced work in theatre is accomplished through Directed Readings (Theatre Art 88.), Special Projects (Theatre Art 89.) and advanced tutorials, some of which will be created specifically for each student. Advanced tutorials in areas other than acting and directing which are already on the books will be created to meet student demand whenever possible.

The theatre art major consists of a minimum of 15 full courses in the following categories:

 Core Curriculum Required of all majors, three full courses as follows: Introduction to Theatre, a basic acting course, and a course in basic technical theatre and design.
 Drama/History Core Required of all majors, a minimum of three full courses in theatre history and criticism and dramatic literature. At least one of these courses must in theatre history, and at least two of them must be in materials prior to the twentieth century. Other than theatre history, students may elect to take courses in dramatic literature, taught in theatre art, English, comparative literature, classics, etc.

3) Major Concentration A minimum of three additional courses in the theatre major's area of concentration.

4) Theatre Electives A minimum of three additional courses in theatre art. These may be more courses in the major's area of concentration, they may be in any studio or non-studio area of theatre, or they may be courses in dramatic literature taught in theatre art or in other departments.

5) Related Fields A minimum of three courses in related fields, with specific courses and the related fields determined by the major's area of concentration

The Theatre Art "Minor" or Double Major Students who wish to design a program in theatre art which will serve as a minor program or part of a double major are welcome to do so under the direction of the associate chairman. Each program will be designed to meet the individual's specific need. While some may wish to develop a program independent of other concerns, others may wish to integrate their program with disciplines such as music, fine arts, film, English, modern languages and literatures, philosophy, etc.

All students who plan to major in theatre art or to take a significant portion of their program in theatre art, should consult the associate chairman early in their careers, for many of the fundamental courses should be taken before the junior year.

COURSES

10. INTRODUCTION TO DRAMA. Not offered, 1976-77.

A formal approach to dramatic analyis, this course will examine several types of plays from different periods in order to enable the student to understand and evaluate varied techniques of dramatic construction and theatrical presentation. No prerequisite.

Full course. Mr. Schroeder.

11. VOICE AND DICTION.

An intensive applied phonetic approach to articulation and voice production with some emphasis on speech for the stage. No prerequisite.

Full course, Semester 1. Mr. Schroeder.

14. BASIC ACTING.

A systematic approach to acting. Development of the "inner life" through analysis, improvisation, and scene study. There will be a performance workshop. Additional lab hours will be required. No prerequisite.

Full course, Semester 1. Ms. Sica.

15. INTERMEDIATE ACTING.

An approach to scene study and character analysis. Presentation of scenes from all genre of theatre. Additional lab time required. Prerequisite: Theatre Art 14.

Full course, Semester 2. Ms. Sica.

18. FUNDAMENTALS OF DIRECTING.

An introduction to the principles of directing for the stage through theory, practical application, discussion, and field trips to local professional theatre. Additional lab hours required. No prerequisite.

Full course, Semester 1. Ms. Sica.

19. DIRECTING SEMINAR.

Advanced problems of interpretation and concept. The role of the director as creative and interpretive artist, relationship to designer, stage manager, and actors. Students, upon permission

of the instructor, will produce a one-act play or equivalent. Additional lab time required. Prerequisites: Theatre Art 18. and permission of instructor.

Full course, Semester 2.

Ms. Sica.

88. DIRECTED READINGS.

A sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

89. SPECIAL PROJECTS.

Independent research on a particular problem or an original creative project directly supervised by the instructor.

Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

100. INTRODUCTION TO THE THEATRE.

An introductory survey of theatrical theories and practice which exposes the student to all facets of theatre study, both practical and scholarly. The roles of the actor, director, designer, playwright, producer, and the audience will be examined in the context of contemporary practice as well as in historical perspective. No prerequisite.

Full course, Semester 1.

Mr. Schroeder.

120. BASIC TECHNICAL THEATRE AND DESIGN I.

Fundamental problems of scene, costume, and lighting design as they are related to the theatre technician will be considered along with intensive work in the technology of scene and costume construction and the application of lighting design. Laboratory in the form of specific working crew assignments. No prerequisite.

Full course, Semester 1.

Ms. Allinson.

121. PRINCIPLES OF STAGE MANAGEMENT.

Not offered, 1976-77.

A course in the techniques of stage management and the problems of planning and running rehearsals and performances. Students will receive practical experience by serving on the working crews and in managerial positions on productions. No prerequisite.

Full course.

Mr. Schoeder.

122. BASIC TECHNICAL THEATRE AND DESIGN II.

A continuation of Theatre Art 120. with added emphasis on problems of design. Prerequisite: Theatre Art 120. Full course, Semester 2. Ms. Allinson.

151. THE THEATRE FROM THE GREEKS THROUGH THE MIDDLE AGES.

A survey of Greek, Roman, and medieval theatre, including considerations of the form and substance of theatrical



presentations and study of several representative plays. No prerequisite.

Full course, Semester 1.

Mr. Schoeder:

152. THE RENAISSANCE THEATRE.

A survey of European theatre practice during the Renaissance. with emphasis on the contributions of Italy, France, and England. No prerequisite.

Full course, Semester 2.

Mr. Schoeder.

153. EUROPEAN THEATRE IN THE 18TH AND 19TH CENTURIES.

Not offered, 1976-77.

A survey of continental and English theatre from the Restoration period in England to the end of the nineteenth century. No prerequisite.

Full course.

Mr. Schroeder.

154. THE MODERN THEATRE TO WORLD WAR II.

Not offered, 1976-77.

A study of the modern theatre from the realistic revolt at the end of the nineteenth century to the period of World War II. No prerequisite.

Full course.

Mr. Schroeder.

155. THE THEATRE SINCE WORLD WAR II.

Not offered, 1976-77.

A study of theatre since World War II, including consideration of the many experimental movements which have contributed to the contemporary theatre. No prerequisite. Full course. Mr. Schroeder.

161. THE AMERICAN THEATRE TO 1920.

Not offered, 1976-77.

A survey of American theatre and drama from colonial times to 1920, including study of theatre architecture, scene and costume design, acting styles, production methods, audiences, and representative plays. No prerequisite. Full course. Mr. Schroeder.

162. THE AMERICAN THEATRE, 1920 TO THE PRESENT.

The course will highlight the major developments in the American theatre during the past fifty years. It will focus primarily on theatre organizations and on ensembles, prominent directors, dramatic forms, innovations in theatre architecture, and leading stage designers. The decentralization of the theatre and the nature of B'way, off- and off-off B'way, "residence" and "regional, theatre," as well as the political and experimental theatre of the 60's and 70's will be explored. No prerequisite. Full course, Semester 2. Mr. Schroeder.

164. THE AMERICAN MUSICAL THEATRE.

A survey of American musical comedy and other musical entertainments from The Black Crook to the present. After a brief study of musical theatre in nineteenth century America and foreign and domestic influences on it, the course will concentrate on selected figures and works in twentieth-century musical comedy. No prerequisite. Full course, Semester 2. Mr. Schoeder.

170. INTRODUCTION TO PLAYWRITING. Not offered, 1976-77.

A study of the problems of plot construction, characterization. dialogue writing, and theatricalization. Students will be expected to produce written assignments which demonstrate the various problems of playwriting. In addition, students will be asked to write at least one complete one-act play or portions of a longer play, or, in substitution, a detailed analytical project. Admission to the course is by permission of the instructor; to obtain permission, the student will be asked to demonstrate a

familiarity with several types of dramatic literature, and, if possible, he/she should have taken Theatre Art 10. Full course. Mr. Schroeder.

185. TENNESSEE WILLIAMS. Not offered, 1976-77.

An intensive study of Tennessee Williams, concentrating on his development as an artist. Evaluation of his contribution to drama and literature through reading and analysis of his works. No prerequisite, but some experience in drama and literature is expected.

Full course. Mr. Schroeder.

199. HOLY CROSS COURSES.

All Theatre Art courses taken at the College of the Holy Cross are numbered 199. Content is differentiated by title only. During each registration period, students should consult the list of courses available in the Theatre Art Office.

204. ADVANCED TUTORIAL IN ACTING I.

Special study and coaching in acting problems for experienced actors only. Prerequisites: at least two courses in drama or theatre history and permission of instructor. Variable credit, Semesters 1, 2. Staff.

205. ADVANCED TUTORIAL IN ACTING II.

Continuation of Theatre Art 204. Prerequisites: Theatre Art 204., and permission of instructor. Variable credit, Semesters 1, 2. Staff.

206. ADVANCED TUTORIAL IN ACTING III.

Continuation of Theatre Art 205. Prerequisites: Theatre Art 205... and permission of instructor. Variable credit, Semesters 1, 2. Staff.

207. ADVANCED TUTORIAL IN ACTING IV.

Continuation of Theatre Art 206. Prerequisites: Theatre Art 206... and permission of instructor. Variable credit. Semesters 1, 2, Staff.

242. ADVANCED TUTORIAL IN DIRECTING I.

Special study and coaching in problems of directing for experienced directors only. Prerequisites: Theatre Art 19., at least two courses in drama or theatre history, and permission of instructor. Variable credit, Semesters 1, 2. Staff.

243. ADVANCED TUTORIAL IN DIRECTING II.

Continuation of Theatre Art 242. Prerequisites: Theatre Art 242., and permission of instructor. Variable credit, Semesters 1, 2. Staff.

281. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA. Not offered, 1976-77.

A seminar devoted to the intensive study of a small group of dramatists or of a special dramatic problem of the Renaissance. Independent study and research is emphasized. Prerequisite: permission of instructor.

Full course. Mr. Schroeder.

286. SEMINAR: IBSEN. Not offered, 1976-77.

An intensive study of the major plays of Ibsen and criticism of his life and work. Consideration will be given to his development as an artist. Independent research and study is emphasized. Prerequisite: permission of instructor. Full course. Mr. Schroeder.

VPA 89. INTERDISCIPLINARY CREATIVE WORKSHOP.

(See description under Music.)



Members of the faculty and officers for 1976-77 are listed alphabetically with their titles, degrees, and years at Clark University. Persons no longer on the faculty, but who served during the previous year are included also.

PRESIDENT

MORTIMER H. APPLEY, Ph.D., President of the University, Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950. (1974-)

EMERITI

KARL O.E. ANDERSON, Ph.D., Professor of English. A.B., Harvard University, 1927; A.M., 1928; Ph.D., 1942. (1945-1976) KARL J.R. ARNDT, Ph.D., Professor of German, Emeritus.

(1950-1974)

LYDIA P. COLBY, B.S., Registrar, Emeritus. (1932-1966) JESSIE C. CUNNINGHAM, Ph.D., Associate Professor of English, Emeritus. (1957-1975)

TAMARA DEMBO, Ph.D., Professor of Psychology, Emeritus. (1953-1972)

GEORGE E. HARGEST, M.B.A., Associate Professor of Economics, Emeritus. (1942-1971)

SHERMAN S. HAYDEN, Ph.D., Professor of International

Relations, Emeritus. (1946-1973)

- HOWARD B. JEFFERSON, Ph.D., LL.D., L.H.D., Litt.D., President, Emeritus. A.B., Denison University, 1923; Ph.D., Yale University, 1929; LL.D., Denison University, 1948, Hillsdale College, 1952, Northwestern University, 1958; L.H.D., Colgate University, 1951, Assumption College, 1956; Litt. D., College of the Holy Cross, 1962; L.H.D., Clark University, 1967; LL.D., Emerson College, 1968; Litt. D., Anna Maria College, 1972. (1946-1967)
- VERNON JONES, Ph.D., Professor of Educational Psychology, Emeritus. (1926-1968)
- FREDERICK W. KILLIAN, LL.B., Associate Professor of Sociology, Emeritus. (1947-1970)
- DWIGHT E. LEE, Ph.D., L.H.D., Jacob and Frances Hiatt Professor of European History, Dean of the Graduate School, Emeritus. (1927-1967)
- RAYMOND E. MURPHY, Ph.D., Professor of Economic Geography, Emeritus. (1946-1968)
- THEODORE NICOL, Ph.D., Associate Professor of Romance Languages, Emeritus. (1946-1969)
- J. RICHARD REID, Ph.D., Professor of Romance Languages, Emeritus (1944-1976)
- PERCY M. ROOPE, Ph.D., Professor of Physics, Emeritus. (1921-1962)
- HENRY J. WARMAN, Ph.D., Professor of Geography, Emeritus. (1943-1974)

FACULTY AND OFFICERS OF INSTRUCTION

- DAVID ABRAHAM, Ph.D., Assistant Professor of English. B.A., Brooklyn College, 1966; M.A., University of Massachusetts, 1968; Ph.D., 1973. (1973-)
- VERNON AHMADJIAN, Ph.D., Professor of Botany. A.B., Clark University, 1952; A.M., 1956; Ph.D., Harvard University, 1960. (1959-1968, 1969-)
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- PHILLIP O'KEEFE, Ph.D., Visiting Assistant Professor of Geography. University of London.
- EDWARD L. O'NEILL, Ph.D., Professor of Physics (Affiliate). A.B., Boston College, 1949; M.A., Boston University, 1951; Ph.D., 1954. (1974-)
- MARLENE OSCAR-BERMAN, Ph.D., Associate Professor of Psychology (Affiliate). B.A., University of Pennsylvania, 1961; M.A., Bryn Mawr College, 1964; Ph.D., University of Connecticut, 1968. (1973-)
- TIMOTHY O'RIORDAN, Ph.D., Professor of Geography (Affiliate). M.A., University of Edinburgh, 1963; M.S., Cornell University, 1965; Ph.D., University of Cambridge, 1967. (1973-)

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ATTIAT F. OTT, Ph.D., Professor of Economics. B.A., Cairo University, 1956; Ph.D., University of Michigan, 1962.

GARY E. OVERVOLD, Ph.D., Associate Professor of Philosophy. A.B., St. Olaf College, 1962; Ph.D., Claremont Graduate School, 1965. (1969-)

JANE OYARZUN, Ph.D., Visiting Assistant Professor of Spanish. B.A., University of New Hampshire, 1963; M.A., University of Illinois, 1965; Ph.D., 1971.

RICHARD P. PALMIERI, Ph.D., Visiting Assistant Professor of Geography. B.S., State College, Boston, 1966; M.A., University of Texas, Austin, 1969; Ph.D., University of California, Davis, 1976.

J.E. PARSONS, Ph.D., Associate Professor of English. A.B., Kenyon College, 1958; Ph.D., University of Rochester, 1964. (1975-)

SIDNEY PECK, Ph.D., Associate Professor of Sociology. B.A., University of Minnesota, 1949; M.S., University of Wisconsin, 1951; Ph.D., 1959. (1973-)

J. RICHARD PEET, Ph.D., Associate Professor of Geography. B.Sc., University of London, 1961; M.A., University of British Columbia, 1963; Ph.D., University of California, Berkeley, 1968. (1967-)

VICTOR H. PENTLARGE, M.D., Psychiatry Consultant to the Psychological Services Center. B.A., Harvard University, 1949; M.D., Harvard Medical School, 1953. (1958-)

FERNAND G. PERON, Ph.D., Professor of Biochemistry (Affiliate); Director of Steroid Training Program. B.Sc., Sir George Williams University, 1946; M.Sc., McGill University, 1950; Ph.D., 1953. (1967-)

JAMES PERRY, Ph.D., Assistant Professor of Computer Science (Affiliate). B.S., College of the Holy Cross, 1964; M.A., Indiana University, 1966; M.S., Worcester Polytechnic Institute, 1971, Ph.D., University of Connecticut, 1975.

LAWRENCE E. PETERSON, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Lehigh University, 1965; M.S., University of Pittsburgh, 1967; Ph.D., 1970. (1970-)

RICHARD W. PIERSON, A.M., Director of Admissions. A.B., Marietta College, 1956; A.M., Clark University, 1961. (1965-

MARK S. PLOVNICK, Ph.D., Assistant Professor of Management. B.A., Union College, 1968; S.M., Massachusesetts Institute of Technology, Sloan School of Management, 1970; Ph.D., 1974. (1976-)

STANLEY J. POREDA, JR., Ph.D., Associate Professor of Mathematics. B.S., Stevens Institute of Technology, 1965; Ph.D., University of Maryland, 1970. (1970-)

SPENCER R. POTTER, Ed.D., Lecturer in Education; Director of Career Planning and Placement. B.S., University of Massachusetts, 1942; M.A. in Ed., Clark University, 1959; Ed.D., 1968. (1964-)

DAVID B. PRIOR, Ph.D., Visiting Associate Professor of Geography. B.A., The Queen's University of Belfast, 1966; Ph.D., 1968. (1976-)

FRANK W. PUFFER, Ph.D., Associate Professor of Economics; Dean of Academic Affairs. B.S., Brown University, 1960; Ph.D., 1965. (1968-)

ALEXANDER J. RADZIK, Ed.M., Liaison and Clinical Instructor in Education. A.B., Clark University, 1946; Ed.M., Boston University, 1949. (1969-)

DIANA RAFFMAN, B.A., Assistant Professor of Flute (Affiliate). B.A., Yale University, 1975. (1976-)

RELLY RAFFMAN, A.M., George N. and Selma U. Jeppson Professor of Music; Department of Visual and Performing Arts Chairman. A.B., Dartmouth College, 1943; A.M., Columbia University, 1949. (1954-)

KNUD RASMUSSEN, Ph.D., Associate Professor of Government and International Relations. B.A., Copenhagen University, 1953; M.A., Cornell University, 1960; Ph.D., Rutgers University, 1964. (1966-)

MIRIAM RAVIV, B.A., Lecturer in Hebrew. B.A., Teachers College, Israel, 1954. (1972-)

JUDITH REHMER, M.A., Assistant Professor of Geology. B.S.,

University of Illinois, 1969; M.A., Harvard University, 1970. (1975-)

HAROLD REISS, M.D., Clinical Associate in Psychology. M.D., Boston University School of Medicine, 1956. (1974-)

JOHN T. REYNOLDS, Ph.D., Professor of Microbiology. B.S., Boston College, 1961; M.S., University of Massachusetts, 1954; Ph.D., 1962. (1956-)

JEFFREY ROSEN, Ph.D., Associate Professor of Psychology (Affiliate). B.A., George Washington University, 1964; M.A., Clark University, 1968; Ph.D., 1971. (1974-)

HERBERT ROSENBLUM, Ph.D., Lecturer in Jewish History. B.A., Yeshiva College, 1950; Rabbi, M.H.L., Jewish Theological Seminary of America, 1954; Ph.D., Brandeis University, 1970. (1972-)

HARRIS ROSENKRANTZ, Ph.D., Professor of Biochemistry (Affiliate). A.B., Brooklyn College, 1943; M.S., New York University, 1946; M.S., Cornell Medical College, 1948; Ph.D., Tufts Medical School, 1952. (1959-)

ROBERT J. ROSS, Ph.D., Assistant Professor of Sociology, Department of Sociology Chairman. B.A., University of Michigan, 1963; M.A., University of Chicago, 1966; Ph.D., 1975. (1972-)

KAREN SACKS, Ph.D., Assistant Professor of Sociology. A.B., Brandeis University, 1963; M.A., Harvard University, 1964; Ph.D., University of Michigan, 1971. (1976-)

EDWARD E. SAMPSON, Ph.D., Professor of Sociology; Adjunct Professor of Psychology. B.A., University of California, Los Angeles, 1956; Ph.D., University of Michigan, 1960. (1971-)

MARČIA A. SAVAGE, Ed.D., Assistant Professor of Education; Dean of the College. A.B., Clark University, 1961; M.A., 1962; Ed.D., 1966. (1964-)

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JOSEPH SCHMULLER, Ph.D., Assistant Professor of Psychology. B.S., Brooklyn College, 1967; M.A., University of Missouri, Kansas City, 1970; Ph.D., University of Wisconsin, 1975. (1975-)

NEIL R. SCHROEDER, Ph.D., Associate Professor of Theatre Art A.B., Brown University, 1952; Ph.D., Yale University, 1962. (1960-)

ANN T. SCHULZ, Ph.D., Associate Professor of Government and International Relations. B.A., Miami University (Ohio), 1958; M.A., Yale University, 1964; Ph.D., 1969. (1976-)

HARRY E. SCHWARZ, B.C.E., Visiting Professor of Environmental Affairs; Adjunct Professor of Geography. B.C.E., George Washington University, 1954. (1973-)

ANN SEIDMAN, Ph.D., Professor of International Development (Affiliate). B.S., Smith College, 1947; M.S., Columbia University, 1953; Ph.D., University of Wisconsin, 1968.

DON M. SHAKOW, Ph.D., Assistant Professor of Economics. B.S., Massachusetts Institute of Technology, 1962; Ph.D., University of California, 1972. (1976-)

DAVID SHARON, Ph.D., Professor of Geography (Affiliate). M.Sc., Hebrew University of Jerusalem, 1961; Ph.D., 1965. (1972-)

ROBERT G. SHERMAN, Ph.D., Associate Professor of Physiology. B.S., Alma College, 1964; M.S., Michigan State University, 1967; Ph.D., 1969. (1971-)

ROBERT B. SHILKRET, Ph.D., Research Associate in Psychology (Affiliate). B.A., The Johns Hopkins University, 1965; M.A., Clark University, 1970; Ph.D., 1974. (1974-)

CAROL SICA, M.F.A., Associate Professor of Theatre Art; Associate Chairman for Theatre Art Program in the Department of Visual and Performing Arts. B.A., Hofstra University, 1963; M.F.A., Yale University, 1966. (1976-)

ALAN C. SIMPSON, B.S., Lecturer in Management. B.S., University of New Hampshire at Durham, 1973. (1975-

CHARLES H. SLATKIN, M.F.A., Lecturer in Film/Video Production. B.A., Clark University, 1974; M.F.A., Rochester Institute of Technology, 1976. (1976-)

MICHAEL SOKAL, Ph.D., Associate Professor of History of Science and Technology (Affiliate). B. of Engineering, The Cooper Union, 1966; M.A., Case Western Reserve University,

1970; Ph.D., 1972. (1975-

NORMAN SONDAK, D.Eng., Professor of Mathematics (Affiliate). B. of Engineering, City University of New York, 1953; M.S., Northwestern University, 1954; D.Eng., Yale University, 1958. (1969-)

CATHERINE Q. SPINGLER, M.A., Lecturer in French. B.A., University of Michigan, 1960; M.A., 1964. (1973-

- MICHAEL K. SPINGLER, Ph.D., Associate Professor of French. B.A., Dartmouth College, 1959; M.A., University of Pittsburgh, 1961; Ph.D., 1966. (1972-
- BHAMA SRINIVASAN, Ph.D., Associate Professor of Mathematics. B.A., University of Madras, India, 1954; M.S., 1955; Ph.D., University of Manchester, England, 1959.

ELIZABETH STANKO, Ph.D., Assistant Professor of Sociology.

B.A., City University of New York, 1972.

DONALD G. STEIN, Ph.D., Professor of Psychology, B.A., Michigan State University, 1960; M.A., 1962; Ph.D., University of Oregon, 1965. (1966-

DAVID A. STEVENS, Ph.D., Associate Professor of Psychology. A.B., University of California, Berkeley, 1954; M.A., University of Oregon, 1963; Ph.D., 1965. (1965-

RONALD D. STORY, Ph.D., Visiting Assistant Professor of History. B.A., University of Texas, 1963; M.A., University of Wisconsin, 1968; Ph.D., State University of New York, 1972.

JOHN S. STUBBE, Ph.D., Associate Professor of Mathematics. B.S., University of New Hampshire, 1941; M.S., Brown University, 1942; Ph.D., University of Cincinnati, 1945. (1949-

STANLEY SULTAN, Ph.D., Professor of English. A.B., Cornell University, 1949; A.M., Boston University, 1950; Ph.D., Yale

University, 1955. (1959-

DAVID SUSSMAN, B.A., Assistant Professor of Guitar (Affiliate). B.A., State University of New York at Buffalo, 1973. (1975-

- DAVID TEPPER, Ph.D., Assistant Professor of Mathematics. A.B., Temple University, 1964; M.A., 1966; Ph.D., 1969. (1973-
- NICHOLAS S. THOMPSON, Ph.D., Associate Professor of Psychology; Adjunct Associate Professor of Biology. B.A., University of California, Berkeley, 1961; Ph.D., 1966. (1970-WILLIAM E. TOPKIN, Ed.D., Assistant Professor of Education,

Dean of Students. A.B., Clark University, 1960; M.A., 1963;

Ed.D., 1967. (1964-

EDWARD N. TRACHTENBERG, Ph.D., Professor of Chemistry. A.B., New York University, 1949; A.M., Harvard University, 1951; Ph.D., 1953. (1958-

GERHARD TSCHANNERL, Ph.D., Geography Affiliate. M.Sc., The Johns Hopkins University, 1966; M.A., Harvard University, 1968; Ph.D., 1970. (1972-

INA C. UZGIRIS, Ph.D., Professor of Psychology. B.S., University of Illinois, 1957; M.A., 1960; Ph.D., 1962. (1966-)

ROGER C. VAN TASSEL, Ph.D., Professor of Economics; Department of Economics Chairman. A.B., Union College, 1947; A.M., Cornell University, 1950; Ph.D., Brown University, 1956. (1954-

EMIEL C. VEENDORP, Ph.D., Professor of Economics, B.A., University of Groningen, The Netherlands, 1960; Ph.D., Rice University, 1963. (1976-)

WILLIAM VOGEL, Ph.D., Professor of Psychology (Affiliate). B.A., Wesleyan University, 1955; M.A., Clark University,

1957; Ph.D., 1959. (1954-)

THEODORE H. VON LAUE, Ph.D., Jacob and Frances Hiatt Professor of European History. B.A., Princeton University, 1939; Ph.D., 1944. (1970-)

MARY CLARE WALSH, Ph.D., Clinical Associate in Psychology (Affiliate). B.S., Catholic University, 1965; M.A., Clark

University, 1967; Ph.D., 1974. (1974-

RICHARD WALTON, M.D., Professor of Psychology (Affiliate). B.A., Queens University School of Liberal Arts (Kingston, Ontario, Canada), 1959; M.D., Queens University Medical School, 1961. (1975-

SEYMOUR WAPNER, Ph.D., G. Stanley Hall Professor of Genetic Psychology; Department of Psychology Chairman. A.B., New York University, 1939; A.M., University of

Michigan, 1940; Ph.D., 1943. (1948-

RICHARD A. WARRICK, Ph.D., Visiting Assistant Professor of Geography. B.A., University of California, 1970; M.A., University of Colorado, 1972; Ph.D., 1975.

MAURICE D. WEINROBE, Ph.D., Associate Professor of Economics. B.S., Bradley University, 1964; Ph.D., Cornell University, 1969. (1976-

JERALD A. WEISS, Ph.D., Professor of Physics (Affiliate). B.A., Ohio State University, 1949; Ph.D., 1953. (1973-1974, 1975-

WEN-YANG WEN, Ph.D., Professor of Chemistry, B.S., National Taiwan University, 1953; Ph.D., University of Pittsburgh, 1958. (1962-

JOHN WHITESIDE, Ph.D., Assistant Professor of Psychology. B.A., Brown University, 1968; Ph.D., University of Rochester, 1972. (1972-

MORTON WIENER, Ph.D., Professor of Psychology. B.S., S.S., City College of New York, 1949; M.S.Ed., 1950; Ph.D., University of Rochester, 1953. (1957-

RUDOLPH WINSTON, JR., D.B.A., Lecturer in Management. A.B., Haverford College, 1954; M.B.A., Columbia Graduate School of Business, 1960; D.B.A., Harvard Business School, 1975. (1976-

WALTER WRIGHT, Ph.D., Associate Professor of Philosophy. B.A., Yale University, 1965; M.A., Vanderbilt University, 1967;

Ph.D., 1971. (1968-

JANG H. YOO, Ph.D., Assistant Professor of Economics. B.A., Seoul National University, 1963; M.A., University of California, Los Angeles, 1969; Ph.D., Texas A&M University, 1972. (1973-

DAVID ZERN, Ph.D., Associate Professor of Education; Adjunct Associate Professor of Psychology, B.A., Harvard University,

1962; Ed.M., 1964; Ph.D., 1969. (1971-)

EDGAR B. ZURIF, Ph.D., Assistant Professor of Psychology (Affiliate). B. Engineering, 1961; M.Sc., McGill University, 1964; Ph.D., University of Waterloo, 1967. (1974-)

Faculty Committees 1976-1977

ADMISSIONS (no terms)

Anderson, K	. English
Curtis, J.	Biology

Mason, I. Assoc. Dean of Students, ex officio Director of Admission, on Dean of the College, ex officio Pierson, R. Director of Admission, ex officio Savage, M.

*Spingler, M. Foreign Languages
Topkin, W. Dean of Students, ex officio

Trachtenberg, E. Chemistry

COLLEGE BOARD

		erm Expires
Appley, M.	President, ex officio	
Cirillo, L.	Psychology	1977
Corcoran, G.	Registrar, ex officio	
Cowardin, S.	Visual and Performing Arts	1979
Kohin, R.	Physics	1978
Krefetz, S.	Government	1976
*Mason, I.	Assoc. Dean of Students, ex offici	o
Savage, M.	Dean of the College, ex officio	
*Topkin, W.	Dean of Students, ex officio	

COMMITTEE ON PERSONNEL

Appley, M.	President, ex officio	
*Andersen, R.	Physics	1978
Beck, R.	Philosophy	1979
Berry, L.	Dean of Grad. School, ex officio	
Borg, D.	History	1979
Enloe, C.	Government	1978
Kaplan, B.	Psychology	1977
Kasperson, R.	Geography	1978
Puffer, F.	Dean of Acadm. Affairs, ex officio	
Schatzberg, W.	Foreign Languages	1977
Sherman, R.	Biology	1979
Wright, W.	Philosophy	1977

COMPUTER ADVISORY

Brenner, D.	Chemistry	1978
*Howard, R.	Biology	1976
Karaska, G.	Geography	1976
Landry, L.	Vice Pres. for Bus. and Finance, ex off.	icio
Larson, A.	Director of Computer Center, ex officio	
Ott, A.	Economics	1977
Puffer, F.	Dean of Acadm. Affairs, ex officio	
Whiteside, J.	Psychology	1978
Vacancy	,	1978

FINANCIAL AID (no terms)

Howard, R.	Biology
Keith, R.	Director of Financial Aid, ex officio
Landry, L.	Vice Pres. for Bus. and Finance, ex officio
Mason, I.	Assoc. Dean of Students, ex officio
Savage, M.	Dean of the College, ex officio
Stein, D.	Psychology
Stevens, D.	Psychology
Topkin, W.	Dean of Students, ex officio

Dean of Students, ex officio

Vacancy

NOMINATING		Term Expires
Brenner, D.	Chemietry	
	Chemistry	1979
Brink, J. Damon, W.	Biology Psychology	1978
Laird, J.	Psychology	1979 1979
Overvold, G.	Philosophy	1979
Reynolds, J.	Biology	1979
Sampson, E.	Sociology	1977
Spingler, M.	Foreign Languages	1979
Trachtenberg, E.	Chemistry	1979
RESEARCH BOARI	5	
Beard, J.	English	1977
*Berry, L.	Research Coordinator, ex officio	
Billias, G.	History Chemistry	1977
Erickson, K. Kates, R.	Chemistry Geography	1976 1977
Krueger, D.	Fine Arts	1977
Allen, H.	Chemistry	1978
	Ghomotry	
Appley M	Development with the	
Appley, M. Brenner, D.	President, ex officio	4070
(secretary)	Chemistry	1979
Brink, J.	Biology	4079
Brink, J. Berry, L.	Biology Dean of Grad. School, ex officio	1978
Damon, W.	Psychology	1979
*Laird, J.	Psychology	1979
Overvold, G.	Philosophy	1977
Puffer, F.	Dean of Acadm. Affairs, ex offic	
Sampson, E.	Sociology	1977
Savage, M.	Dean of the College, ex officio	
Spingler, M.	Foreign Languages	1977
Topkin, W. Trachtenberg, E.	Dean of Students, ex officio Chemistry	4070
(parliamentarian)	Chemistry	1979
(part)		
	ACADEMIC BOARD	
D'Lugo, M.	Foreign Languages	1978
Hohenemser, C.	Physics	1977
Johnson, D.	Geography (for Moody)	1977
Kenney, H.	Education	1977
Lyerla, T.	Biology Dean of the College, ex officio	1978
*Savage, M. Sultan, S.	Dean of the College, ex officio English	1976
Julian, C.	Eligilali	1075
UNIVERSITY COUN	ICIL	
Faculty Assembly		
Anderson, A.	Philosophy	1977
Appley, M.	President	
Beck, R.	Philosophy	1979
Sherman, R.	Biology	1978
Graduate Board Allen, H.	Chemistry	1979
COPACE		
Hopkins, R.	Dean of COPACE	1977
Staff		
Kidd, R.	Business Manager	
Petty, J.	Accounting	
Stockwell, D.	Buildings & Grounds	
Porn/ I	Doop of Graduate School rotati	200
Berry, L. Landry, L.	Dean of Graduate School, rotation Vice Pres. for Bus. and Finance	
Puffer, F.	Dean of Acadm. Affairs, rotating	
Savage, M.	Dean of the College, rotating	
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142 DIRECTORIES

FACULTY REVIEW COMMITTEE		Term Expires	
Ahmadjian, V.	Biology	1977	
Blinderman, C.	English	1978	
Cirillo, L.	Psychology	1979	
Hilsinger, S.	English	1979	
Kennison, J.	Mathematics	1978	

LIBRARY

Barron, T.	Librarian, ex officio	
*Hilsinger, S.	English	1976
Lyerla, T.	Biology	1977
Von Laue, T.	History	1978

^{*}Chairman

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Jacob Hiatt, A.M., (1955) Worcester, MA Alice C. Higgins, L.H.D., (1962) Worcester, MA John Jeppson, M.B.A., (1948) Worcester, MA Richard W. Mirick, L.L.B., (1957) Princeton, MA

TERM MEMBERS

Marc C. Abrahms, A.B., (1976) West Hartford, CT John Adam, Jr., L.L.D., (1975) Marlboro, MA Michael P. Angelini, J.D., (1975) Northboro, MA Francis H. Dewey, III, A.B., (1971) Williamstown, MA Robert I. Dickey, M.S., (1971) Ft. Worth, TX Robert E. Dik, A.B., (1969) Worcester, MA Herbert H. Hoffner, M.D., (1976) Lawrence, NY John B. Jacobs, Jr., Ph.D., (1972) Albuquerque, NM Robert K. Massey, A.B., (1968) Holden, MA Lawrence E. McGourty, A.B., (1973) South Berlin, MA Mary H. Melville, (1975) Worcester, MA David R. Porter, A.B., (1966) Wellesley, MA Charles L. Sanders, M.B.A., (1974) Holden, MA Edward A. Smith, L.L.B., (1975) Kansas City, MO Geraldine M. Smith, M.A., (1973) Berkeley, CA Sumner B. Tilton, Jr., J.D., (1976) Worcester, MA Robert H. Wetzel, A.B., (1973) Holden, MA

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Angelini, Higgins, Jacobs, Melville, and G. Smith (Staff: William Topkin)

*As of 7/15/76

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Alan E. Larson, B.S., Director Andrea Goodman, B.S., Systems Programmer

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Beverly Kuba, R.N., Nurse, Health Services
Anna Lubatkin, R.N., Nurse, Health Services
Spencer S. Potter, Ed.D., Director of Career Planning and
Placement

Susan Slack, B.S.J., Assistant Dean of Students

UNIVERSITY RELATIONS

Donald P. Hudson, B.A., Editorial Director Jodie Martinson, B.A., Publicity Director Elaine Wurster, M.A., Alumni Director

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Persons interested in more information about Clark University should address the appropriate officer of administration listed below:

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Undergraduate Mr. William E. Topkin
Student Affairs: Dean of Students
Ms. Ina Mason

Associate Dean of Students

Ms. Susan Slack

Assistant Dean of Students

Admission to the College: Mr. Richard W. Pierson

Director of Admissions

Faculty Affairs: Mr. Saul B. Cohen

Chairman of the Faculty

Financial Aid: Mr. Roger W. Keith

Director of Financial Aid

Graduate School Affairs: Mr. Leonard Berry

Dean of the Graduate School

College of Professional Mr. Richard L. Hopkins and Continuing Education: Dean of COPACE

Alumni Affairs: Ms. Elaine Wurster

Director of Alumni Affairs

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Registrar

Career Planning and

Placement

Mr. Spencer Potter
Director of Career
Planning and Placement

University Address: 950 Main Street

Worcester, Massachusetts

01610

University Telephone:

Area Code 617 Telephone 793-7711

Academic Calendar 1977-1978

FALL SEMESTER

Thursday, September 8

Registration for undergraduate and graduate students

Friday, September 9

First day of classes

Friday, September 16

Last day for graduate students to register

Monday, September 19 — Tuesday, September 20

Final registration for all students

Tuesday, October 4

Last day to submit applications to Registrar for degree to be

awarded 1/20/78

Thursday, October 27

First day (SS= 10/26-12/15) courses

Friday, October 28

Mid-semester break begins after last class

Wednesday, November 2

Classes resume

Thursday, November 3

Last day to add (SS= 10/26-12/15) courses

Thursday, November 24

Thanksgiving vacation.

Monday, November 28

Classes resume

Thursday, December 15

Last day of classes

Friday, December 16

Reading day

Saturday, December 17 — Wednesday, December 21

Fall examinations

Wednesday, December 21

Christmas vacation begins after last exam

SPRING SEMESTER

Monday, January 16

Registration for all students

Tuesday, January 17

First day of classes

Monday, January 23 — Tuesday, January 24

Final registration for all students

Friday, January 27

Commencement (for students completing degree requirements

in the fall)

Monday, February 27

Last day to submit application to Registrar for degree to be

awarded 5/14/78

Friday, March 3

Spring vacation starts after last class

Monday, March 13

Classes resume

Thursday, April 27

Last day of classes

Friday, April 28 — Sunday, April 30

Reading days

Monday, May 1 - Friday, May 5

Spring examinations

Sunday, May 14

Commencement

MODULAR TERM

Monday, May 15

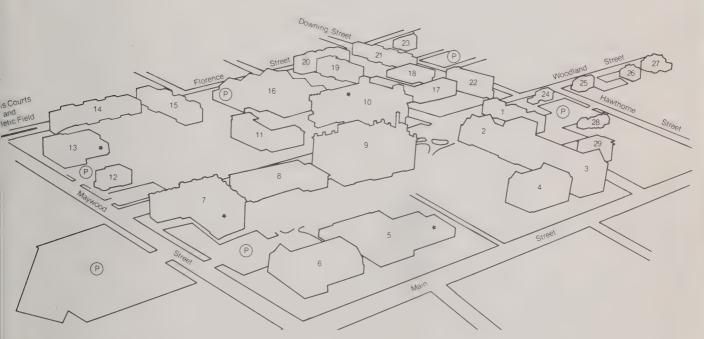
Modular Term begins

Thursday, June 29

Modular Term ends







- 1. Downing Administration Center
- 2. Atwood Hall
- 3. Academic Center
- 4. Geography Building
- 5. Jefferson Hall
- 6. Alumni Gymnasium
- 7. Science (Bio-Physics) Building
- 8. Jeppson Laboratory
- 9. Jonas Clark Hall
- 10. Robert Hutchings Goddard Library

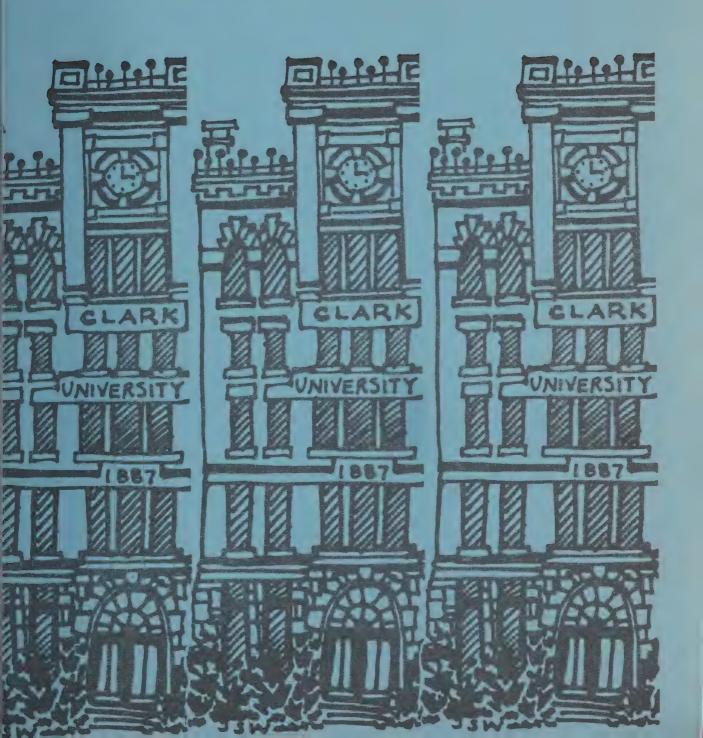
- 11. Bullock Hall
- 12. Potter Laboratory
- 13. Dana Commons
- 14. Dana Dormitory
- 15. Hughes Hall
- 16. Student Activities Center
- 17. Wright Hall
- 18. Little Center for the Visual and Performing Arts
- 19. Dodd Hall
- 20. Johnson Hall
- 21. Sanford Hall

- 22. Estabrook Hall
- 23. Physical Plant
- 24. Alumni House
- 25. English House
- 26. Carriage House
- 27. Department of Management
- 28. Cooperative Nursery/Commuter Lounge
- 29. Downing Residence
- * Restrooms and Public Telephone
- Parking Area

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Clark Jniversity





Clark University

Catalog Supplement





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Introduction

This document has been designed to be used in conjunction with the 1977-78 catalog for the 1977 fall semester. Plans are being made to institute a two-year catalog beginning in the academic years 1978-80.

Since this supplement contains only information concerning course changes, questions may arise in regard to material not presented here. Students should contact the offices of the Registrar, Department chairpersons, and/or the Dean of the College.

The courses listed in this supplement show all changes we anticipate in the fall semester course offerings of the Clark University catalog, as of July 15, 1977. Due to circumstances beyond our control, such as changes in faculty staffing, it may not be feasible to offer the exact set of courses indicated herein and in the catalog. Thus a prospective student should anticipate the possibility of additions and/or deletions to the set of courses offered during the 1977 fall semester.

Biology

108. INTRODUCTION TO BIOLOGY.

The program units for the coming year are as follows:

Semester 1.

108.1

Lecture/laboratory/discussion groups - Johansen (Offered in Semester 1, limited to 100 students in lecture and to 20 students in laboratory/discussion sections).

108.2-5

Introductory Seminar in Biology (all four offered twice, each in both the first and second halves of Semester 1, limited to 20 students in each class).

.2-

HUMAN GENETICS AND SOCIETAL PROBLEM - Lyerla

.3-

ISLAND BIOLOGY - Nunnemacher

.4-

CELL STRUCTURES - Tsang

.5-

CANCER BIOLOGY - Fahey

110. BOTANY.

A survey of the taxonomy, structure, and physiology of plants. Three lectures and one laboratory period per week.
Full course, Semester 1.

Mr. Johansen.

118. GENETICS.

Principles and problems of genetics. Full course, Semester 1. Repeated Semester 2.

Mr. Lyerla. Ms. Comer.

- 182. PRIMATE SOCIAL BEHAVIOR. (Not offered, 1977-78)
- 183. PRINCIPLES OF BEHAVIORAL EVOLUTION.

From a broad survey of the social systems of animals, this course will attempt to distill the general principles that have directed the evolution of animal behavior. See also Psychology 246. Full course, Semester 1.

Mr. Thompson.

213. PLANT PHYSIOLOGY.

An introduction to the function and chemistry of plants. Three lectures per week. Prerequisite: One course in botany and one in chemistry.

Full course, Semester 1.

Ms. Tsang.

228. ADVANCED MOLECULAR GENETICS.

A consideration of topics at the forefront of molecular genetics, such as the genes for ribosomal RNA and protein, DNA sequences of promoter and operator regions, plasmids, and recombinant DNA.

Students will read journal articles and write a paper.

Prerequisite: 118.

Full course, Semester 1.

Ms. Comer.

- 229. EVOLUTIONARY BIOLOGY. (Not Offered, 1977-78)
- 230. BIOLOGY: THE STATE OF THE ART. (Not Offered, 1977-78)
- 232. SELECTED TOPICS IN BACTERIOLOGY. (Not Offered, 1977-78)
- 240. ANIMAL PHYSIOLOGY.

Introduction to the principles underlying physiological functions common to living organisms. The course covers the subcellular, cellular, and organ levels of organization and places a primary emphasis on mammals. Prerequisites: Introduction to Biology and Introductory Chemistry. Three lectures and one laboratory per week. Full course, Semester 1.

Mr. Sherman.

- 247. SEMINAR IN NEUROPHYSIOLOGY. (Not Offered, 1977-78)
- 250. PRINCIPLES OF IMMUNOLOGY.

An introduction to the basic principles, problems, and theories concerning the immunological behavior of man and the animal kingdom, familiarizing the student with the experimental evidence upon which are based the present concepts of immune mechanisms. The course is oriented to demonstrate the basic methods of experimental immunology and the application of such methods to biological problems.

Full course, Semester 1.

Mr. Fahey.

260. DIRECTED RESEARCH.

Credit/No Record only.
Variable credit.
Semesters 1, 2, Modular Term.

Staff.

261. DIRECTED READINGS.

Credit/No Record only. Variable Credit. Semesters 1, 2, Modular Term.

Staff.

262. HONORS IN BIOLOGY.

Readings and research for students in the honors program.

Credit/No Record only.

Semesters 1, 2, Modular Term.

Staff.

268. PRINCIPLES OF PHARMACOLOGY. (Not Offered, 1977-78)

270. BIOCHEMISTRY.

The principles of mechanisms of biochemical reactions in an understanding of the metabolism of foodstuffs and the role of enzymes, nucleic acids and hormones. An acquaintance with the instrumentation in biochemical research will be presented. Prerequisite: Chemistry 130. Three lectures, one laboratory per week.
Full course, Semester 1.

280. THE HISTORY AND PRESENT STATUS OF INSTINCT.

It has long been argued and long contested that man and animal alike are guided in their social behavior by innate tendencies. This orfering will emphasize the devious and irrational course of progress in a scientific field of study so loaded with social and philosophic implications. Permission of instructor required. See also Psychology 260.

Full course, Semester 1.

Mr. Thompson.

315. SEMINAR IN LICHENOLOGY.

A detailed, yet broad, treatment of lichens with discussion of recent theories concerning their evolution and development. Lichens will be considered in terms of their symbiotic interactions, ecology, growth, nutrition and metabolism, water relations, chemistry, and genetics. Several local field trips and several laboratory sessions will be held to deal with aspects of taxonomy and morphology.

Full course, Semester 1.

Mr. Ahmadjian.

325. SEMINAR IN ULTRASTRUCTURE.

Discussion of the structure of macromolecules and subcellular organelles in relation to their biological functions. Evidence obtained by a variety of physical and chemical methods will be considered, particular emphasis being placed on electron microscopic studies. Consent of instructor required.

Full course, Semester 1.

Mr. Curtis.

332. SEMINAR IN BACTERIOLOGY. (Not Offered, 1977-78)

Chemistry

- 10. CHEMISTRY FOR THE CONCERNED CITIZEN. (Not Offered, 1977-78)
- 12. FUNDAMENTALS OF CHEMISTRY. (Not Offered, 1977-78)
- 150. INORGANIC CHEMISTRY.

Full course, Semester 1.

Mr. Allen.

235. NATURAL PRODUCTS.

The chemistry of selected naturally occurring compounds is discussed in terms of structure determination, synthesis, mechanism, and biogenetic theory. Three lectures, one laboratory (optional for graduate students) per week. Prerequisite: 130.or 132, 135.or consent of the instructor. Offered in alternate years.

Full course, Semester 1.

Ms. Erickson.

270. PROTEIN CHEMISTRY.

This lecture course discusses the structure and function of biologically important macromolecules. Particular emphasis is placed on proteins (enzymes and non-catalytic proteins), protein synthesis from nucleic acids, and the structure and function of biological membranes. Prerequisite: Chemistry 130.

Full course, Semester 1.

Mr. Nelson.

Classics

Classics 120. INTRODUCTION TO CLASSICAL CIVILIZATION. (Not Offered 1977-78)

Classics 121. INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY.

A general introductory survey of ancient Greek culture and history covering: the Bronze Age civilizations of Crete and Mycenae, the Classical Greek city-states, the conquests of Alexander and the emergence of international urban culture in the Mediterranean world. Readings in the works of ancient authors will be chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture and archaeology will be illustrated by slides. Full course, Semester 1.

Comparative Literature

Comparative Literature 115. LITERATURE AND EXISTENTIALISM.

The course will be an introduction to major writers and themes of existentialism from Dostoyevsky, Kierkegaard, and Nietzsche to Sartre, Beauvoir, Camus, and Beckett. Beginning with a study of the cultural origins of existentialism as a distinctively modern, European sensibility, we will explore how and why existentialist thought has found expression with unique appropriateness as both philosophical literature and literary philosophy.

Full course, Semester 1.

Ms. McCall.

Comparative Literature 118. LITERATURE AND THE NATURE OF MAN. (Not Offered, 1977-78)

Comparative Literature 120. THE EPIC JOURNEY.

A close comparative examination of the epic as a recurring literary form with special attention to the various forms and functions of the hero's journey. Epic journeys may or may not have goals which are clear to the hero; they may be wanderings in unknown parts of the physical world or they may be representative of various types of spiritual striving and trial. Our task will be to define and articulate the various types of epic voyages and to relate their differences and similarities to the values of the societies which gave rise to them. Readings will consist mainly of primary literary texts with supplementary assignments in appropriate modern critical works; included in the reading will be selections (in English translation) from:

Homer's Odyssey, Virgil's Aeneid, Petronius' Satyricon as an example of mock epic, Apuleius' Golden Ass and Dante's Divine Comedy.
Full course, Semester 1.

Mr. Burke.

Comparative Literature 162. THE IDEA OF AMERICA IN SPANISH-AMERICAN NARRATIVE: A CROSS-CULTURAL APPROACH.

A close examination of contemporary Spanish-American narratives as they depict the nature of Spanish-American culture as an identification with American Space. The course will consider both the literary-historical tradition of this "American theme" as well as the technical expression of Space, place and setting in fiction. Besides the specific focus on representative examples of Spanish-American fiction, readings, discussions, films and excursions will be aimed at placing the particular Spanish-American experience within two other cultural contexts: 1) European origins of the notions of American Space and identity; 2) the cross-cultural contrasts between Latin-American and Anglo-American notions of culture. Conducted in English.

Full course, Semester 1.

Comparative Literature 180. IRRATIONAL CURRENTS IN CONTEMPORARY THEATRE. (Not Offered, 1977-78)

Comparative Literature 185. READINGS IN MODERN FICTION.
(Not Offered, 1977-78)

Comparative Literature 190. CRITICAL APPROACHES TO LITERATURE. (Not Offered, 1977-78)

Comparative Literature 210. THE LITERARY HERO.

Full course, Semester 1.

Mr. Barbera.

Comparative Literature 225. POLITICS AND THE NOVEL. (Not Offered, 1977-78)

Comparative Literature 230. ELEMENTS OF DRAMA.

Full course, Semester 1.

Mr. Spingler.

Comparative Literature 235. PROBLEMS IN DRAMA: MYTH AND STRUCTURE. (Not Offered, 1977-78)

ENGLISH LITERATURE COURSES RECOMMENDED TO COMPARATIVE LITERATURE STUDENTS.

English 300. INTRODUCTION TO GRADUATE STUDY IN ENGLISH.

Full course, Semester 1.

Mr. Sultan.

Computer Science

The Computer Science courses involve the use of the Digital Equipment Corporation P.D.P.11/70 system located on campus.

101. INTRODUCTION TO COMPUTER PROGRAMMING.

Full course, Semester 1.

Mr. Larson.

Economics

089. SPECIAL PROJECTS.

Junior and senior majors in economics will be permitted to take up to a maximum of two course credits for applied economic research studies in the Worcester area under faculty direction.

Semester 1. Mr. Nicholson, Staff.

113. MONETARY ECONOMICS: THEORY AND POLICY.

The theory of money, its role in the modern economy. Determinants of the supply of money and analysis of the role of monetary policy in stabilization policy.

Semester 1. Mr. Weinrobe.

161. COMPUTER WORKSHOP FOR ECONOMICS.

The purpose of this workshop is to instruct a select group of undergraduates in the use of remote terminal data processing facilities for the purposes of research in applied econometrics. Participants will receive instruction both in the mechanical operation of the DECWRITER terminal and in the econometric techniques which can be implemented by means of this terminal. This instruction will then be applied through work on various research activities within the department.

Semester 1.

Mr. Shakow.

228. ECONOMIC DEVELOPMENT.

This course will examine the major theories of economic development, the major problems confronting the less-developed countries, and the policies and strategies appropriate for economic development. The purposes are to show the relevance of economics in international development, to promote an understanding of the problems of the less-developed countries, and to help provide analytical skills useful to students interested in a career in international development.

Semester 1.

231. ELECTRICITY: ECONOMIC AND ENVIRONMENTAL ISSUES.

See course description under STS 231. Semester 1.

Mr. Shakow, Mr. Ducsik.

- 265. BASIC ECONOMETRIC THEORY. (Not Offered, 1977-78)
- 266. APPLIED STATISTICS AND ECONOMETRICS.

Integration of statistical concepts with the estimation and fore-casting of economic variables; estimation of production function; cost analysis; quality analysis; linear programming; input-output method; estimation of aggregate supply and demand function; model for national economy. Prerequisite: Economics 160. or 265. Semester 1.

271. INTRODUCTION TO MATHEMATICAL ECONOMICS.

An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: Consent of the instructor.

Variable credit.

Semester 1. Mr. Veendorp.

281. SENIOR HONORS.

Variable credit. Semesters 1, 2.

Mr. Nicholson.

301.1 ECONOMIC THEORY (MICRO)

Semester 1.

Ms. Ott.

302.1 ECONOMIC THEORY (MACRO)

Semester 1.

Ms. Ott.

- 312. APPLIED MACROECONOMICS. (Not Offered, 1977-78)
- 325. PUBLIC FINANCE SEMINAR. (Not Offered, 1977-78)
- 326. INDUSTRIAL ORGANIZATION SEMINAR.

Semesters 1, 2.

Mr. Veendorp.

- 327. INTERNATIONAL TRADE SEMINAR. (Not Offered, 1977-78)
- 328. ECONOMIC DEVELOPMENT. (Not Offered, 1977-78)
- 209. MARXIST ECONOMIC THEORY. (Not Offered, 1977-78)

Education

234. FIELD PROJECTS.

Provides individualized and extended experiences in a wide variety of agencies and institutions involving the education and comprehensive care of children and youth. Supervision is provided by the University and field agency personnel; combines related seminars and conferences as a basis for critical analysis of the experiences within the context of applied theory and practice. Variable credit.

Semesters 1, 2, Modular Term. Staff.

234.2 FIELD PROJECTS: PRE-INTERNSHIP MODULE EXPERIENCE.

Variable credit. Semesters 1, 2, Modular Term.

Ms. Kenney.

234.1 FIELD PROJECTS: SPECIAL EDUCATION.

Variable credit. Semesters 1, 2, Modular Term.

Ms. Holland.

Hist./Educ. 241. SEMINAR: HISTORY OF AMERICAN HIGHER EDUCATION.

Role of higher education in American life, with emphasis on the rise, character and impact of the American university. Reading and discussion of selected secondary works, followed by intensive research in primary materials on a topic of the student's choice.

Full course, Semester 1.

Mr. Koelsch.

344. RESEARCH AND EVALUATION IN EDUCATION PROGRAMS.

This course explores the multiple roles of research and evaluation in developing and improving educational programs. First semester emphasizes the effective use and design of needs assessment, policy research, program implementation research and impact evaluation. Members will develop a research design for their own professional setting. Second semester emphasizes the process of conducting research in the field, including selecting appropriate measures, carrying out data analysis, and communicating research and evaluation results. While conducting a study in the field, seminar members will examine the evaluator-client relationship and policies of the field research process.

Full course, Semesters 1, 2.

Ms. Morocco.

English

17. CREATIVE WRITING.

Graded Credit/No Record. Full course, Semester 1.

Mr. Dempsey.

18. EXPOSITORY WRITING.

Graded Credit/No Record. Full course, Semester 1.

Staff.

- 25. WRITING FOR MAGAZINES. (Not Offered, 1977-78)
- 100. MAJOR BRITISH WRITERS.

First semester: Beowulf; selections from Chaucer (in translation), Spenser, Shakespeare, Donne, Jonson, and Milton. First semester not open to freshmen except with permission of the instructor.

Full course, Semester 1.

Mr. Carter.

101. MAJOR AMERICAN WRITERS.

First semester not open to freshmen except with permission of the instructor.

Full course, Semester 1.

Mr. Conron.

- 120. LITERATURE AND LIBERATION. (Not Offered, 1977-78)
- 125. THE SHORT STORY. (Not Offered, 1977-78)
- 129. MODERN DRAMA.

First semester not open to freshmen except with permission of the instructor.
Full course, Semester 1.

Mr. Abraham.

130. INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

Full course, Semester 1.

Mr. Ford,
Mr. Formisano.

143. MODERN BRITISH FICTION.

Not open to freshmen except with permission of the instructor.
Full course, Semester 1.

Ms. Hilsinger.

144. MODERN AMERICAN FICTION.

Not open to freshmen except with permission of the instructor. Full course, Semester 1.

Mr. Beard.

145. CONTEMPORARY FICTION. (No Longer Offered)

154. ENGLISH FICTION.

First semester not open to freshmen except with permission of the instructor.

Full course, Semester 1.

Mr. Geracht.

155. ENGLISH DRAMA.

First semester not open to freshmen except with permission of the instructor.

Full course, Semester 1.

Mr. Abraham.

161. ADVANCED CREATIVE WRITING. (Not Offered, 1977-78)

216. THE RENAISSANCE IN ENGLAND. (Not Offered, 1977-78)

220. SEMINAR: SEVENTEENTH CENTURY.

Full course, Semester 1.

Mr. Carter.

226. SEMINAR: STUDIES IN EIGHTEENTH-CENTURY LITERATURE. (Not Offered, 1977-78)

236. BRITISH ROMANTIC LITERATURE. (Not Offered, 1977-78)

239. SEMINAR: AMERICAN LITERARY RENAISSANCE.

Full course, Semester 1.

Mr. Beard.

242. VICTORIAN LITERATURE. (Not Offered, 1977-78)

244. SEMINAR: ROMANTIC AND VICTORIAN GOTHIC.

Full course, Semester 1.

Mr. Blinderman.

245. SEMINAR: DARWINISM. (Not Offered, 1977-78)

249. SEMINAR: TWAIN, HOWELLS, AND JAMES. (Not Offered, 1977-78)

251. THE CIVIL WAR IN LITERATURE, 1860-1960. (Not Offered, 1977-78)

252. SEMINAR: CONRAD. (Not Offered, 1977-78)

257. SEMINAR: THE IRISH LITERARY MOVEMENT. (Not Offered, 1977-78)

259. MODERNIST POETRY.

Full course, Semester 1.

Mr. Sultan.

261. SEMINAR: W.B. Yeats. (Not Offered, 1977-78).

264. SEMINAR: T.S. ELIOT. (Not Offered, 1977-78)

266. SEMINAR: VIRGINIA WOOLF.

Full course, Semester 1.

Ms. Hilsinger.

267. SEMINAR: SPECIAL STUDIES IN TWENTIETH-CENTURY AMERICAN LITERATURE: HEMINGWAY, FAULKNER, O'NEILL, ELIOT, AND STEVENS.

Full course, Semester 2.

Mr. Beard.

279. AMERICAN LANDSCAPES.

This course will trace the evolution of American attitudes toward the natural landscape and of the literary forms which articulate these attitudes. Two literary problems will be considered in detail: How language functions to describe landscape; and how landscape reflects the moods, states of mind, and world-views of those who describe it. Texts will include travelogues, nature writing, fiction and poetry from the eighteenth century to the present, with emphasis on works by Thoreau, John Muir, Jack London, Loren Eiseley, William Faulkner, and Theodore Roethke.
Full course, Semester 1.

280. THE HISTORY OF THE ENGLISH LANGUAGE.

This course traces the development of English from Proto-Indo-European to present-day American English. It concentrates on the main phonological, morphological, syntactic, and lexical features of the Old English, Middle English, Early Modern English, and Modern English periods. M.A. candidates in English are required to take this course. Prerequisite: Consent of the instructor.
Full course, Semester 2.

281. THE DEVELOPMENT OF MODERN ENGLISH, I AND II. (Not Offered, 1977-78)

282. OLD ENGLISH.

Full course, Semester 1.

Mr. Macris.

284. SEMINAR: MODERN AMERICAN ENGLISH. (Not Offered, 1977-78)

Linguistics 285. SEMANTICS.

Full course, Semester 1.

Mr. Macris.

286. SEMINAR: LINGUISTIC APPROACHES TO LITERATURE. (Not Offered, 1977-78)
Linguistics 287. INTRODUCTION TO LINGUISTICS.

Full course, Semester 1.

Mr. Macris.

Linguistics 288. COMPARATIVE AND HISTORICAL LINGUISTICS. (Not Offered, 1977-78)

- 291. THE PROTESTING VOICE AND THE INDIGNANT EYE: SATIRE IN LITERATURE AND THE VISUAL ARTS. (Not Offered, 1977-78)
- 293. WORKSHOP IN SECONDARY ENGLISH CURRICULUM.

Full course, Semester 1.

Ms. Ransom.

- 296. WRITING WORKSHOP FOR TEACHERS OF ENGLISH. (Not Offered, 1977-78)
- 300. INTRODUCTION TO GRADUATE STUDY IN ENGLISH.

Mr. Sultan.

Environmental Affairs

214. URBAN PLANNING.

The course will provide an overview of the basic areas of planning concern including the following: Historical context, legal framework, role of the planner in local government, planning data sources, population studies, economic studies, housing studies, land use, water supply, wastewater disposal, transportation, site planning and design, comprehensive planning, environmental impact assessment, development controls and techniques, and municipal fiscal analyses. Full course, Semester 1.

Mr. Rizzo.

231. SEMINAR: POLITICS AND THE ENVIRONMENT (Not Offered, 1977-78)

Foreign Languages and Literatures

DEPARTMENT COURSES IN FRENCH

French 12. INTERMEDIATE FRENCH.

Full course, Semester 1.

Ms. Spingler, Mr. King.

French 137. ORAL AND WRITTEN FRENCH.

Full course, Semester 2.

Mr. King.

French 165. FRENCH PLAY PRODUCTION.

Full course, Semester 2.

Mr. Spingler.

French 175. SARTRE AND CAMUS. (Not Offered, 1977-78)

French 241. GENERAL VIEW OF FRENCH LITERATURE, CHARLEMAGNE TO LOUIS XIV. (Not Offered, 1977-78)

French 253. FRENCH POETRY FROM CHENIER TO VERLAINE. (Not Offered, 1977-78)

French 256. THE MODERN FRENCH NOVEL.

Full course, Semester 2.

Ms. McCall

French 257. FRENCH CLASSICAL TRAGEDY. (Not Offered, 1977-78)

French 258. EXPERIMENTS IN SELF-CONSCIOUS NARRATIVE: NOVEL AND AUTOBIOGRAPHY. (Not Offered, 1977-78)

French 270. THE EXPERIENCE OF POETRY.

Given in French, this course will attempt through lecture--discussions, readings, and explications de texte--to clarify the poetic experience. (What is poetry? How is the poetic experience produced? How is it communicated?) After a preliminary study of French prosody (structure, meter, rhyme, technical effects and so forth), French poetry of all periods (eleventh to twentieth centuries) and all genres (lyric, dramatic, epic, didactic, etc.) will serve as the material on which to base the study of the basic problem of the course as stated in the first sentence above. Prerequisite: Permission of the instructor. Full course, Semester 1.

- German 10. READING KNOWLEDGE OF GERMAN. (Not Offered, 1977-78)
- German 132. ADVANCED COMPOSITION AND CONVERSATION. (Not Offered, 1977-78)
- German 136. GERMAN LYRIC POETRY. (Not Offered, 1977-78)
- German 138. MODERN GERMAN DRAMA. (Not Offered, 1977-78)
- German 145. THE GERMAN NOVELLE. (Not Offered, 1977-78)
- German 155. NINETEENTH CENTURY GERMAN LITERATURE. (Not Offered, 1977-78)
- German 162. GOETHE'S FAUST. (Not Offered, 1977-78)
- German 166. GERMAN DRAMA FROM LESSING TO EXPRESSIONISM. (Not Offered, 1977-78)
- German 170. THOMAS MANN.

A study of the short prose, of one or two novels and of some of Mann's essayistic work. Mann's development is traced from his early aestheticism and cultural pessimism to his later avowal of democratic socialism and historical optimism. Discussion of Mann's relationship to the intellectual trends of his time will illuminate his changing perspective and artistic values. The influences of Nietzsche, Schopenhauer, Wagner, and Freud are especially emphasized. Students electing to take the course for credit in German will read some of the major works in German and meet weekly in additional tutorials.

Full course, Semester 1.

Mr. Hughes.

- German 172. (Not Offered, 1977-78)
- German 180. BRECHT, PLAYWRIGHT AND POET.

A study of Brecht's poetry, the Brecht/Weil--Die Dreigroschenoper,
Mahoganny, and Happy End--several major plays--Baal, Mann ist Mann,
Die Massnahme, Laben des Galilei, Der Gute Mensch von Sezuan, Der
Kaukasische Kreiderkreis--and selections from his theoretical writings.
Two films will be shown: The 1931 adaptation of Die Dreigroschenoper,
and Kuhle Wampe (1932), with script and screenplay by Brecht, the last
film made in Germany before the Nazis took power.
Full course, Semester 1.

Mr. Schatzberg.

- German 190. GOETHE. (Not Offered, 1977-78)
- German 192. SCHILLER AND KLEIST. (Not Offered, 1977-78)
- German 208. TEACHING LAB IN GERMAN.

A teaching apprenticeship experience offered to graduate students and to exceptional undergraduates who have demonstrated potential capability in this area. The teaching apprentice, under the supervision of the regular course instructor, is gradually exposed to all the aspects involved in teaching a foreign language course (planning and organization, preparation, presentation, evaluation) and is encouraged to become a co-teacher to the greatest extent possible. Full course, Semester 1.

GERMAN LITERATURE COURSES TAUGHT IN ENGLISH.

- German 116. COLLOQUIUM ON MODERN GERMAN LITERATURE. (Not Offered, 1977-78)
- German 152. THE MEDIEVAL GERMAN EPIC. (Not Offered, 1977-78)
- German 172. NATURALIST AND EXPRESSIONIST DRAMA. (Not Offered, 1977-78)
- German 182. HESSE SEMINAR. (Not Offered, 1977-78)
- German 183. KAFKA SEMINAR. (Not Offered, 1977-78)

DEPARTMENT COURSES IN HEBREW

Hebrew 188. SHOLOM ALEICHEM AND THE YIDDISH LITERARY TRADITION.

An analysis of the major literary works of Sholom Aleichem and his contemporaries. The historical and literary backgrounds will be discussed and an attempt will be made to relate the Yiddish literary tradition to trends in world literature. The humanistic and sociocultural values of Jewish civilization will be traced in the novels, short stories, and poetry of the Yiddish writers. No prerequisite. Full course, Semester 1.

Mr. Goldsmith.

DEPARTMENT COURSES IN SPANISH

Spanish 11. ELEMENTARY.

Full course, Semester 1.

Mr. Ortíz, Staff.

Spanish 12. INTERMEDIATE.

Full course, Semester 1.

Staff.

Spanish 117. SPEAKING SPANISH: BEGINNING LEVEL. (Not Offered, 1977-78)

Spanish 127. PRACTICE IN ORAL AND WRITTEN SPANISH.

Full course, Semester 1.

Mr. Ortíz.

Spanish 131. READINGS IN MODERN SPANISH-AMERICAN LITERATURE.

Third-year level. Close examination of the principal writers and movements in the development of twentieth century Spanish-American prose. Special emphasis on the "New Narrative" of Borges, Cortazar, García Márquez, Donoso, and Rulfo. Conducted in Spanish. Prerequisite: Spanish 12., or equivalent skill in the language. Full course, Semester 1.

Spanish 133. LATIN AMERICAN THEMES.

Full course, Semester 1.

Staff.

Spanish 136. WOMEN'S ROLE IN SPANISH LITERATURE.

Full course, Semester 2.

Staff.

- Spanish 139. LITERATURE AND REVOLUTION IN SPANISH AMERICA. (Not Offered, 1977-78)
- Spanish 140. SPANISH DRAMATIC EXPRESSION/PLAY PRODUCTION.

Full course, Semester 2.

Mr. Ortiz.

Spanish 141. SPANISH TRANSLATION WORKSHOP.

As the title suggests, this is a workshop, and not a descriptive course in the techniques of translation. The purpose of the course is to enable the students to translate printed data (commercial, technical, scientific, print, comic strips, etc.) from Spanish into English and vice-versa. The course will be based on a linguistic approach and will consist of formal sessions in which this basic theory and its diverse techniques will be taught, plus the workshops. During the workshops, printed materials will be distributed among the students for them to translate. The workshop sessions will be the testing ground for the theory exposed during the "magisterial" lessons. Other exercises will cover these aspects: Morphemes, lexicon and cognates, syntagmatic sequences, clauses and sentences. Paragraph and
"textual" translation will be dealt with separately. Prerequisites: Language majors, four college semesters of Spanish or its equivalent. Linguistics majors: A course in at least one of the following: General linguistics, theoretical linguistics, transformational grammar, semantics. Spanish 131.or permission of instructor. Full course, Semester 1. Mr. Ortíz.

Spanish 162. THE IDEA OF AMERICA IN SPANISH-AMERICAN NARRATIVE: A CROSS-CULTURAL APPROACH. (See description under CMLT 162.)

Full course, Semester 1.

Mr. D'Lugo.

Spanish 242. EARLY SPANISH LITERATURE FROM THE POEMA DE MIO CID TO THE CELESTINA. (Not Offered, 1977-78)

Spanish 243. CERVANTES. (Not Offered, 1977-78)

Spanish 244. THE DRAMA OF THE SIGLO DE ORO. (Not Offered, 1977-78)

Spanish 245. THE MODERN SPANISH NOVEL.

A number of nineteenth century novels will be read. The twentieth century will be represented by such outstanding novelists as Galdós (who bridges the nineteenth and twentieth centuries), Unamuno, Valle-Inclán, Baroja, Delibes. Conducted in Spanish. Prerequisite: Grade of B- or higher in a third-year course above Spanish 131.
Full course, Semester 1.

- Spanish 246. MAIN CURRENTS IN CONTEMPORARY SPANISH AMERICAN FICTION. (Not Offered, 1977-78)
- Spanish 207. FIELD WORK IN THE HISPANIC COMMUNITY.

Supervised contact and work in one of a variety of community agencies and projects servicing the Hispanic community in Worcester (Bilingual school programs, Casa de la comunidad, Worcester Legal services, etc.). Students participating in particular field projects will be assigned to a member of the department and/or persons in related academic departments. Under the direction of the advisor, students will be

placed in a particular community project. Through consultation with the campus advisor and a designated supervisor from the cooperating agency the student will work first-hand with members of the Hispanic community while developing a written project related to the particulars of language, culture and related problems of the bilingual community in Worcester. Prerequisites: proficiency in Spanish as determined by the department; successful completion in course work in the field or fields related to the specific project area.

Variable credit.

Semester 1. Staff.

Geography

001. TUTORIAL IN GEOGRAPHY.

Quarter course, Semester 1.

Mr. Johnson, Staff.

002. CAPSTONE SEMINAR IN GEOGRAPHY.

No longer for credit.

011. SURVEY IN GEOGRAPHY.

Full course, Semester 1.

Mr. Johnson

013. FIELD STUDIES OF ENVIRONMENTAL ISSUES.

Full course, Semester 2.

Mr. Kates

114. DYNAMICS OF THE EARTH SURFACE.

Full course, Semester 1.

Mr. Lewis.

115. CULTURAL ECOLOGICAL SYSTEMS. (Not Offered, 1977-78)

122. INTRODUCTION TO CLIMATOLOGY.

The elements of climate and weather dealt with first separately and then in their interrelationships and applied to physical factors of selected regions.

Full course, Semester 1.

Ms. Faulkner.

125. DEVELOPMENT PROBLEMS.

Full course, Semester 1.

Mr. Ford, Mr. Berry.

130. INTERNATIONAL SYSTEMS IN GEOPOLITICAL PERSPECTIVE.

Full course, Semester 1.

Mr. Cohen.

134. GLOBAL CHANGE & TRANSNATIONAL STRATEGIES.

An assessment of principal world trends in population, resource supply and economic product and its distribution and the evaluation of alternative strategies to cope with them. Consideration of main current views of the future held by scientists, social scientists and humanists.

Full course, Semester 1.

Mr. Major.

157. INTRODUCTION TO RESOURCE MANAGEMENT.

Full course, Semester 1.

Mr. Warrick.

162. INDUSTRIAL GEOGRAPHY.

Introduction to location theory; the growth of central urban-industrial regions and the stagnation of underdeveloped peripheries; interregional industrial competition and the formation of pockets of unemployment within manufacturing belts.

Full course, Semester 1.

Mr. Peet.

171. SOCIAL GEOGRAPHY.

Full course, Semester 2.

Mr. Seley.

172. CULTURE & SPACE: THE CROSS ATLANTIC EXPERIENCE.

Studies of organization and cognition of space and landscape in America. The course will be divided into three parts: (1) the home and local space; (2) regional space; and (3) national space. The focus will be upon European roots and American innovation in an alien environment. Field trips will be made in New England on Thursday afternoons in the first part of the course. Enrollment is limited to 20 students, sophomores preferred. Permission of instructor required. One of three courses in the Humanities Program. Full course, Semester 1.

188. DEVELOPMENT OF RURAL SETTLEMENTS IN ISRAEL: KIBBUTZ, MOSHAV, MOSHAVA.

Course will study the history of development of Israel's three rural settlement types - the private, cooperative and collective. Selected case studies focused on the landscape development process and exploration into future trends are included.

Full course, Semester 1.

Mr. Cohen.

191. INTRODUCTION TO MAP MAKING AND CARTOGRAPHY.

Full course, Semester 1.

Mr. Degani.

200. ENVIRONMENTAL EDUCATION WORKSHOP. (Not Offered, 1977-78)

204. CURRICULUM DEVELOPMENT AND ANALYSIS. (Not Offered, 1977-78)

- 205.1 METHODS OF TEACHING AND RESEARCH IN EDUCATIONAL SYSTEMS. (Not Offered, 1977-78)
- 216. INTRODUCTION TO GEOMORPHIC METHODOLOGY.

The course will survey the range of research techniques used in geomorphology including field sampling, laboratory and computer analysis and modelling.

Full course, Semester 1.

Ms. Faulkner.

- 218. PEDOLOGY: THE EARTH'S SOIL SYSTEM. (Not Offered, 1977-78)
- 222. SEMINAR IN THE DYNAMICS OF CLIMATE AND SOCIETY. (Not Offered, 1977-78)
- 229. PROSEMINAR: VICTORIAN BOSTON (HISTORICAL GEOGRAPHY). (Not Offered, 1977-78)
- 230. POLITICAL GEOGRAPHY AND ITS SPATIAL CONSEQUENCES.

Full course, Semester 2.

Mr. Cohen.

- 235. COASTAL ZONE MANAGEMENT SEMINAR. (Not Offered, 1977-78)
- 236. GEOGRAPHY OF DEVELOPMENT.

This course will examine economic ecological spatial theory of under-development. Case studies will be taken from Asia, Africa, Latin America. Students will be expected to submit a written project indicating specialized research knowledge in one of these areas. Full course, Semester 1.

Mr. O'Keefe.

237. SEMINAR IN MIGRATION & EMPLOYMENT IN WORCESTER: A CASE STUDY.

This is a research seminar which will examine employment and unemployment in Worcester and its relationship with foreign migration. Students will be expected to study migration and employment theory. Field surveys will be carried out in Worcester during the semester. The evaluation of the course will be by presentation of field work results.

Full course, Semester 1.

Mr. O'Keefe.

- 245. HISTORICAL GEOGRAPHY OF THE UNITED STATES. (Not Offered, 1977-78)
 - 253. HISTORICAL GEOGRAPHY OF NEW ENGLAND.

A seminar and field course concerned with specific research problems in the historical geography of 19th century New England, including, but not limited to: (1) the cultural ecology of rural New England; (2) perception in and reconstruction of rural environment and landscape; and (3) the expanding commercial-industrial and residential structure of the Victorian city.

Full course, Semester 1.

Mr. Johnson.

255. HISTORICAL GEOSOPHY: IMAGES OF AMERICAN WEST.

A historical approach to the study of perception of regions, space and territory, landscape and physical environment with special emphasis on the American West 1800-1973. Emphasis will be on sources

and techniques.
Full course, Semester 1.

Mr. Bowden.

- 256. COMPARATIVE SPATIAL SYSTEMS ANALYSIS. (Not Offered, 1977-78)
- 257. THEORY OF MULTIOBJECTIVE RESOURCE EVALUATION.

Introduction to the theory of multiobjective resource evaluation. Presents the full range of criteria required for the economic, social, and environmental evaluation of resource programs and projects together with selected applications.

Full course, Semester 1.

Mr. Major.

- 258. THE HUMAN GEOGRAPHY OF ANIMALS AND PLANTS. (Not Offered, 1977-78)
- 259. HISTORY OF RIVER BASIN PLANNING IN THE UNITED STATES.

The development of concepts, procedures and policies for river basin planning in the United States from the single purpose projects of the 19th century to modern multiobjective planning strategies.

Full course, Semester 1.

Mr. Major.

262. INTERNSHIP IN URBAN PLANNING.

The course is designed to acquaint students with operational practice common to local planning agencies. Students will work on topics considered to be of personal interest as well as important in the current affairs of Worcester. The setting of the course is a seminar with considerable student initiative and interpersonal interaction.

Full course, Semester 1.

Mr. Karaska.

- 264. CULTURAL ECOLOGY OF PASTORAL NOMADISM. (Not Offered, 1977-78)
- 268. HISTORY OF GEOGRAPHIC THOUGHT.

Full course, Semester 1.

Mr. Koelsch.

270. THEORY OF URBAN SOCIAL GEOGRAPHY AND ITS APPLICATION.

The forces that shape the urban environment, with particular focus on urban neighborhoods - how they arose, the external pressures on them, and their internal workings. Emphasis on methods of exploring urban communities and their options for the future.

Full course, Semester 1.

Mr. Seley.

274. MARXIST GEOGRAPHY.

Introduction to Marxism, critique of existing models in social and economic geography, center-periphery relationships, extraction of surplus value, imperialism and dependency. Prerequisite: Geography 161. Enrollment limited.

Full course, Semester 2.

Mr. Peet.

275. THEORY OF CITIZEN PARTICIPATION.

Full course, Semester 1.

Mr. Kasperson, Mr. Ducsik.

291. BASIC MAP DESIGN.

Full course, Semester 1.

Mr. Degani.

295. WORKSHOP IN MAP DESIGN AND PRODUCTION.

Full course, Semester 1.

Mr. Degani.

298. INTRODUCTION TO AUTOMATED CARTOGRAPHY.

Principles of automated techniques; exercises exemplifying selected problems. Prerequisite: elementary Fortran.
Full course, Semester 1.

Mr. Degani.

- 333. TEACHING OF ENVIRONMENTAL MANAGEMENT. (Not Offered, 1977-78)
- 347. SEMINAR IN SYSTEMS ANALYSIS. (Not Offered, 1977-78)
- 362. SEMINAR IN HISTORICAL GEOGRAPHY.

Review of recent literature and methodology in historical geography of North America. Permission of instructor.
Full course, Semester 1.

Mr. Bowden.

- 364. SEMINAR ON CURRICULUM DEVELOPMENT IN RECREATION GEOGRAPHY. (Not Offered, 1977-78)
- 365. SEMINAR IN ECONOMIC GEOGRAPHY. (Not Offered, 1977-78)
- 367. SEMINAR: ISSUES IN SERVICE PROVISION.

Social, political, philosophical issues in service provision with examples to be drawn from mental health, mass transit and fire protection.

Full course, Semester 1.

Mr. Seley.

396. APPROACHES TO GEOGRAPHY. (Not Offered, 1977-78)

GEOGRAPHY DYNAMY INSTITUTE PROGRAM

This is a program sponsored by the Graduate School of Geography, COPACE, and Dynamy which is designed for a selected number of students outside Clark with permission for a very small number of students within the University. It is an integrated program and individual courses cannot be taken.

Geog. 141. INTRODUCTION TO THE STUDY OF THE CITY.

This course is designed to introduce students to the study of cities in general, and Worcester in particular. Students will be assigned a number of topics to investigate within the Worcester Metropolitan area. In the process of dealing with these topics, students will not only be introduced to a variety of aspects of Worcester, but will also be introduced to various techniques used in the analysis of urban problems. Students will also be introduced to literature dealing with the history and function of American cities as well as to materials relating specifically to Worcester.

One and one half course, Semester 1.

Dynamy Staff.

Geog. 142. INTRODUCTION TO FIELD EXPERIENCE LEARNING.

This course is a preliminary step to the internship practicum. Classes will be devoted to a thorough examination of the major principles and procedures underlying the effective practice of field experience education. Students will be visiting various agencies and organizations, meeting field sponsors, and exploring potential internship situations. Once a student selects an appropriate internship, s/he will work with the faculty in detailing learning plans, goals and objectives. At the same time, the student will be developing an internship job description and a learning contract form. The course will culminate with the commencement of regular work on the internship assignments.

One quarter course, Semester 1.

Dynamy Staff.

Geog. 143. INTERNSHIP PRACTICUM.

Students will work in an apprenticeship/ field practicum for several months. During this period, students will be working closely with a professional sponsor in a selected field. Placements will be available in a variety of fields, and will be designed to suit the particular interests of each student. Internships will be offered in a wide range of fields including social services, business, law, urban affairs, government and education. Interns will spend at least three full days per week on the internship working closely with a field experience advisor who will meet regularly with both students and sponsors to discuss internship placement, development, monitoring and evaluation.

One and one-quarter course, Semester 1.

Dynamy Staff.

Geog. 144. URBAN PROBLEMS SEMINAR.

Course is designed to deal with a variety of economic, political and social problems that face today's urban areas. The implications of continuing growth, high densities, internal population mobility, and lowering tax bases, will be examined. Problems of land-use management and long-range planning will also be considered. Techniques of urban analysis will be emphasized. The city of Worcester will be used as a laboratory for the study of urban problems.

One half course, Semester 1.

Dynamy Staff.

Geog. 145. RESEARCH METHODOLOGY WORKSHOP.

Workshop is designed to prepare students for the second semester's consulting team project and will be devoted to skill development in definition, design and execution of team research. Student teams will be formed and developed in preparation for working on a substantial problem facing an agency or organization in the Worcester area. This workshop will deal with trial problems as well as with analysis and preliminary development of the upcoming project. Half course, Semester 1.

Dynamy Staff.

Government and International Relations

PUBLIC POLICY AND ADMINISTRATION

Government 213. POLICY ANALYSIS.

Policy analysis is a means of critically examining public programs in order to provide decision makers with information on which to make policy decisions. Policy analysts use a variety of techniques such as evaluation research, program budgeting, and survey research. In times of financial and political crises, when governments must make critical choices, the work of the policy analyst is crucial. This course will examine (1) the purpose and context of policy analysis, (2) the various methods that are used in doing it, and (3) the implementation requirements and constraints involved in applied policy research. Both theoretical and applied case materials will be used in this course. Students will engage in a policy analysis project, will critique some examples of policy research, and are expected to participate fully in class discussions. Limit: students.

Full course, Semester 1.

Mr. Fischgrund.

Mr. Rasmussen.

PROGRAM AND GENERAL COURSES

Geography 125. DEVELOPMENT PROBLEMS.

Refer to course description under Geography 125. Semester 1. Mr. Berry.

Geography 130. INTERNATIONAL SYSTEMS IN GEO-POLITICAL PERSPECTIVE.

Refer to course description under Geography 130. Full course, Semester 1. Mr. Cohen.

205. ROOTS OF POLITICAL THOUGHT.

A study of the development of Western political thought from the Socratic philosophies to Hobbes. The study will deal with the evolution of political thought in the context of influential, social, political, and economic forces. Full course, Semester 1. Mr. Rasmussen.

214. SEMINAR: BUSINESS AND POLITICS.

This course will examine the social responsibility of business to a community both from a theoretical and a practical point of view. The theoretical aspects will be explored through a series of assignments of major writers in this area. The practical aspects will be dealt with through the use of community resources in, for example, the legal, educational, and political sectors. This course will take the place of the tutorial program; it will therefore offer the latitude of individualized reports in specific areas of interest. Enrollment limited to 20. Full course, Semester 1.

Geography 232. URBAN POLITICAL GEOGRAPHY.

Refer to course description under Geography 232. Full course, Semester 1.

Mr. Kasperson.

History 240. THE EXPANSION OF EUROPE.

Refer to course description under History 240. Full course, Semester 1.

Mr. Von Laue.

246. INTERNSHIP SEMINAR.

This seminar is structured to complement the local area internship program by studying state and local government and politics as a political system. The main focus of the seminar will be government and politics in Massachusetts. We will explore the relationships among institutions of government, as well as their internal operation and the role of non-governmental sources of political power including interest groups and political parties.

Full course, Semesters 1, 2.

Mr. Blydenburgh.

History 251. IMPERIAL RUSSIA, 1825-1917.

Refer to course description under History 251. Full course, Semester 1.

Mr. Von Laue.

AMERICAN POLITICS

150. INTRODUCTION TO AMERICAN GOVERNMENT.

An introductory study of the processes and efficacy of the American governmental system. Primarily devoted to an overview of contemporary aspects of the national government, the course includes problems of federalism, salient civil liberties issues, and the roles of Congress, the President, the Supreme Court, and political parties in the decision-making process.

Full course, Semesters 1, 2.

Mr. Cohen.

204. SEMINAR IN AMERICAN PRESIDENCY.

A study of the Constitutional and other powers and functions of the President and the Presidency via selected readings and individual research.

Full course, Semester 1.

Mr. Cohen.

220. URBAN GOVERNMENT AND POLITICS.

The primary focus of this course is on the various socio-economic and political inputs that affect the functioning of American urban political systems. What are the resources and constraints which the inputs place upon and provide for the decision makers? Topics to be discussed include: The social, economic, and political nature of the city; the effects of the state and federal governments; relations between city and suburb; political structures and styles; the distribution of power; and race, ethnicity, and ethos theory. In the later part of the course, some attention will be given to differences in urban policy outputs, primarily in the fields of education and welfare. Where relevant, differences and similarities in the politics

of urban areas outside the United States will be considered. Open to sophomores, juniors, and seniors.
Full course, Semester 1.

Ms. Krefetz.

- 221. SUBURBIA: PEOPLE AND POLITICS. (Not Offered, 1977-78)
- 224. BLACK POLITICS IN THE UNITED STATES.

This course will analyze the distribution of power as it affects the Black community. Among those topics to be explored will be: Black congressmen and lobbies, Black politics in cities, the impact of Blacks on the bureaucracy and a comparison of Northern and Southern Black politics.
Full course, Semester 1.

Ms. Enloe

- 251. AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS. (Not Offered, 1977-78)
- 253. AMERICAN CONSTITUTIONAL LAW NON-CIVIL LIBERTIES.

Limited to 25. Full course, Semester 1.

COMPARATIVE POLITICS

108. COMPARATIVE POLITICS OF WOMEN.

This course will examine the roles, influence and participation of women in several different political systems. Changes—and lack of genuine changes in women's political status—will be compared within the context of the entire political system (ideologies, bureaucratic organizations, party systems, class and ethnic cleavages, etc.). At least one previous course in Government or Women's Studies is strongly advised.
Full course, Semester 1.

Ms. Enloe.

167. REVOLUTION AND POLITICAL VIOLENCE.

Seminar. The roots of political violence and revolution--social change, political legitimacy and individual psychology. Specific revolutions studied through the writing of participants, popular writers, and political analysts. External intervention in domestic rebellions. Limited to 25 students.
Full course, Semester 1.

Ms. Schulz.

- 228.3 SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: ETHNIC CONFLICT. (Not Offered, 1977-78)
- 235. COMPARATIVE BUREAUCRATIC POLITICS. (Not Offered, 1977-78)
- 286. LOCAL GOVERNMENT AND POLITICAL DEVELOPMENT.

How can the determination of third-world politicians to stimulate social change be reconciled with their ideological commitments to broadening political participation? What is the meaning of the word "development" to political scientists, sociologists, and economists? And, what are the effects of political decentralization upon these several aspects of development? Students will work with specific cases from such countries as Tanzania, Morocco, Pakistan, and Mexico,

as well as with contemporary theories about the significance of political participation.

Full course, Semester 1.

Ms. Schulz.

INTERNATIONAL RELATIONS

- 211. THEORIES OF PEACEMAKING IN INTERNATIONAL RELATIONS. (Not Offered, 1977-78)
- 169. INTRODUCTION TO INTERNATIONAL RELATIONS.

The course will seek to develop a general understanding of international relations study. It will focus on problems of conceptualizing the international system, issues of theoretical inquiry, and the interaction of states in analytical form. Current international relations will be drawn upon to illustrate the complexity of interstate relations. No prerequisite.

Full course, Semester 1.

Mr. Slater.

Government 249. INTERNATIONAL POLITICAL ECONOMY.

The course examines how international economic relationships involving trade, capital transfers, and population (labor) movements affect domestic political and economic development. Topics to be discussed include imperialism, dependency, interdependence, and integration. The focus is not limited to less developed countries. Equal weight is given to examination of industrialized nations.

Full course, Semester 1.

Mr. Slater.

History

111. INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY. (Refer to description under Classics 121.)

Full course, Semester 1.

Mr. Burke.

121. AMERICA AND THE WORLD.

The international context of American history. The chief social, political, and economic factors and events in American history will be discussed in the framework of their relationship to developments in the rest of the world.

Full course, Semester 1.

Mr. Campbell.

140. THE FORMATION OF THE WEST: A HISTORY OF EUROPE FROM THE "FALL" OF ROME TO THE PRESENT.

A presentation of the continuities and changes in the succession of cultural values, institutions, techniques, and societal organizations of—and conflicting groups within—Western society. Object: To heighten the students' awareness of what we as Westerners have been and what we still are. The instructor assumes that students have had no previous survey of European history—not even in high school—and he has designed the course for both majors in history and non—majors.

Full course, Semester 1.

Mr. Lucas.

218. THE UNITED STATES, 1896-1941.

The American experience from the election of McKinley to World War II, with emphasis upon political developments, the role of government in economic life and the emergence of the United States as a world power.

Full course, Semester 1.

Mr. Campbell.

240. THE EXPANSION OF EUROPE.

The course concentrates on three periods in the global expansion of Europe: The beginnings in the 15th and 16th century; the so-called imperialist phase before 1914; and the contemporary processes of "development" and "modernization". It aims at a balanced understanding of the factors leading to the universalization of European culture, of the anti-western reaction among non-Europeans, and of the relation between western and non-western cilizations; it assesses the meaning of terms like "imperialism", "colonialism", and "modernization", and explores the problem of cultural relativism and transcendant absolutes in the contemporary world system.

Full course, Semester 1.

Mr. Von Laue.

225. and I.D./N.D. 225. WRITING FOR UPPER CLASS STUDENTS IN THE SOCIAL SCIENCES. (History, Geography, Government, Sociology and Anthropology, and Economics).

Students will study The Practical Stylist by Sheridan Baker and write weekly exercises based on that book, learning to identify and correct their mistakes. They will also analyze selections from authors in the social sciences in order to learn to avoid jargon and to develop a critical sense of style. Term papers and senior theses may be submitted, in part, in lieu of the weekly exercises. All student papers will be mercilessly scrutinized for organization, grammar, punctuation, vocabulary, and proofreading; those not doing the work or not making progress will be dropped from the course. The final grade depends entirely on the instructor's assessment of the quality of a student's writing as manifested by the end of the term.

Juniors and seniors only. Enrollment may be limited, depending on the size of the class and availability of teaching assistants. Full course, Semester 1.

Mr. Von Laue.

219. WOMEN'S HISTORY IN AMERICA.

Full course, Semester 1.

Ms. Brengle.

251. IMPERIAL RUSSIA, 1825-1917.

Full course, Semester 1.

Mr. Von Laue.

Humanistic Studies

American Space and its European Roots is a cluster of three courses taught respectively in the departments of Geography, Philosophy, and Foreign Languages and Literatures. Each course will explore the notion of American space as it relates to specific questions and attitudes inherent in a particular field of intellectual and cultural inquiry. Each course will be organized around the concept of certain shared experiences and activites (e.g. certain common readings, screenings of films relevant to the concerns of all, excursions to nearby sites reflecting and embodying spatial notions to be explored by all). While students will be officially enrolling in only one of the three courses in this cluster, significant contact with the field of study of the other two will be integrated into the overall format of the semester. Enrollment by permission of the instructor only.

Comparative Literature 162. THE IDEA OF AMERICA IN SPANISH-AMERICAN NARRATIVE: A CROSS-CULTURAL APPROACH.

A close examination of contemporary Spanish-American narratives as they depict the nature of Spanish-American culture as an identification with American Space. The course will consider both the literary-historical tradition of this "American theme" as well as the tech-

Mr. D'Lugo.

nical expression of Space, place and setting in fiction. Besides the specific focus on representative examples of Spanish-American fiction, readings, discussions, films and excursions will be aimed at placing the particular Spanish-American experience within two other cultural contexts: 1) European origins of the notions of American Space and identity; 2) the cross-cultural contrasts between Latin-American and Anglo-American notions of culture. Conducted in English. (See also Spanish 162.)

Geography 162. CULTURE AND SPACE: THE CROSS-ATLANTIC EXPERIENCE.

Full course, Semester 1.

The purpose of this course is to consider some basic changes in the notion of space from a geographical viewpoint. Concern will be with the early European images of America, the molding of American space by European migrants, the stage and spatial setting for the conscious and unconscious invention of America by Americans, the transaction between American imagination and American space, and the export of American space to Europe. Emphasis will be upon the material expression of space as city, garden, frontier, paradise, Eden, wilderness, Third world core and periphery. Relationships will be adduced between concepts of spatial organization and values, economy, culture and nature. The course will attempt to integrate geographical notions of space with those explicit and implicit in other academic disciplines, notably philosophy, art and comparative literature. Full course, Semester 1.

Philosophy 162. PHILOSOPHY OF ARCHITECTURE: EUROPE AND AMERICA.

Ideas of space play a vital role in shaping human existence. The purpose of this course is to consider the dialectic between European and American notions of space as they have developed historically both in theory and in practice. Philosophical reflections on the various aspects of space will be integrated with ideas of space explicit and implicit in other academic disciplines such as geography, comparative literature, history, and the arts. Film, slides, and field trips will expose students to the embodiment of general ideas in concrete architectural structures such as houses, villages, cities, castles, cathedrals, bridges, libraries, skyscrapers, and gardens. Full course, Semester 1.

Interdepartmental-Non-Departmental

088. DIRECTED READINGS.

Variable credit, Semester 1.

Staff.

089. INTERNSHIP.

Variable credit, Semester 1.

Staff.

133. MYTH, HISTORY, AND RELIGION.

This course will examine the need for religion in man: The real meaning of myth, ritual, and symbols in life, sacred time and sacred space. A study of patterns found in all religions as well as psychological and sociological theories of religion. Exploring the possibility of creative myth today.

Full course, Semester 1.

Mr. Boucher.

162. SURSEMINAR IN HUMANISTIC EDUCATION. (See also Comp. Lit. 162.)

A seminar on the pedagogy of college teaching, specifically the treatment of basic skills acquisition in foundation courses in the Humanities. Open only to Undergraduate Teaching Assistants in the PROGRAM OF HUMANISTIC STUDIES. The surseminar will address itself to the role of the teaching assistant in the undergraduate course and the relation of how one learns to teach.

Mr. D'Lugo,
Staff.

220. AN HISTORICAL AND PRACTICAL COURSE IN THE BOOK.

This course will deal with the practical and historical aspects of the Book. Students will do readings on the history of papermaking, printing, and bookbinding as well as learn the basics of these crafts in a workshop situation. Bibliophilic skills will be taught in conjunction with the practical work. The semester's study will culminate with the printing and binding of a small book of the class' choice. Graded Credit/No Record.

Full course, Semester 1.

Mr. Clarkson, Mr. Wolfinger.

225. WRITING FOR UPPER CLASS STUDENTS IN THE SOCIAL SCIENCES. (Refer to course description under History 225.)

Full course, Semester 1.

Mr. Von Laue.

Judaic Studies

- Hebrew 118. EXEGESIS OF THE BIBLICAL BOOK OF GENESIS. (Not Offered)
- Hebrew 185. TRENDS AND VALUES IN YIDDISH LITERATURE. (Not Offered, 1977-78)
- Hebrew 188. SHOLOM ALEICHEM AND THE YIDDISH LITERARY TRADITION.
 Refer to description under Hebrew.
 Full course, Semester 1.

 Mr. Goldsmith.
- History 261. AMERICAN JEWISH HISTORY TO 1880.

An examination of the community structures and ideological currents that emerged in America, prior to the large-scale immigration from Eastern Europe. No prerequisite.
Full course, Semester 1.

Ms. Albert.

- History 263. MODERN JEWISH SOCIAL AND INTELLECTUAL HISTORY. (Not Offered, 1977-78)
- History 266. JEWISH CULTURE AND CIVILIZATION FROM BIBLICAL TIMES TO THE EIGHTEENTH CENTURY. (Not Offered, 1977-78)
- History 268. JEWISH CULTURAL HISTORY: WORLD JEWISH LITERATURE.

An introduction to a variety of Jewish literary works in English translation, and an exploration of the use of literary sources for the study of Jewish social and intellectual history. Readings span the time period from the Bible to the present and include material from most areas in which there have been sizeable Jewish communities. Selections include folktales, moralistic tales, poetry, memoirs, short stories, novels, and theater. No prerequisite. Full course, Semester 1.

Sociology 226. SOCIOLOGY OF AMERICAN JEWRY. (Not Offered)

Linguistics

English 282. OLD ENGLISH.

Refer to course description under English 282. Full course, Semester 1.

Mr. Macris.

English 284. SEMINAR: MODERN AMERICAN ENGLISH. (Not Offered, 1977-78)

Refer to course description under English 284.

Mr. Macris.

English 286. SEMINAR: LINGUISTIC APPROACHES TO LITERATURE. (Not Offered, 1977-78)

Refer to course description under English 286.

Mr. Macris.

288. COMPARATIVE AND HISTORICAL LINGUISTICS. (Not Offered, 1977-78)

Management

NOTE: The course requirements for the graduate program in Management have been increased to 16 full courses.

100. SURVEY OF MANAGEMENT.

This is the first semester of a full-year course which surveys management theories and practices, and the functions of management such as marketing, finance, operations, information systems, and the human side of management such as personnel work group formation, and organization development. Indivisible, offered as Management 101.in semester 2.

Full course, Semester 1.

Mr. Burke.

201. MANAGERIAL ACCOUNTING AND FINANCE.

This is a one-semester course in accounting and finance for managers. Full course, Semester 1. Staff.

- 202. INTRODUCTION TO COMPUTER MODELING OF ORGANIZATIONS. (Not Offered)
- 203. INTRODUCTION TO STATISTICS. (Not Offered)
- 205. INTRODUCTION TO ACCOUNTING. (Not Offered)
- 206. INTRODUCTION TO INFORMATION SYSTEMS. (Not Offered)

208. CASES IN MANAGEMENT.

A one-semester course which provides an overview of the management decision-making which interrelates all of the functional and behavioral areas, using a case approach. While in this course, students will meet with current interns to discuss their experiences and learning processes in work environments. Finally, students consider, evaluate, and select an internship in this course if desired. This course is normally required prior to taking an internship.

Full course, Semester 1.

Mr. Naumes.

- 209. INTRODUCTION TO MARKETING. (Not Offered)
- 210. INTRODUCTION TO CAPITAL INVESTMENT AND FINANCE. (Not Offered)
- 211. INTRODUCTION TO BEHAVIORAL SCIENCE AND ORGANIZATIONAL BEHAVIOR. (Not Offered)
- 301. MANAGERIAL ACCOUNTING AND FINANCE.

Designed to provide an understanding of accounting measurements and an appreciation of the ways in which managers use accounting data. Deals with concepts and tools of analysis necessary for the selection, quantification, and communication of business events through the accounting process. Deals with (1) analysis of cost-volume-profit decisions; (2) the use of standard costs and flexible budgets as a means of managerial control; (3) evaluation of management performance; and (4) relevant cost analysis, with special reference to capital budgeting problems.

Full course.

Staff.

302. QUANTITATIVE METHODS.

Designed to provide an introduction to basic mathematical and statistical techniques of potential use to management. Topics covered are probablility, statistical estimation and inference, elementary decision theory, regression analysis, optimization, and matrix algebra.

Full course.

Mr. Shakow.

303. MANAGERIAL ECONOMICS.

Designed to provide an overview of micro and macro economics and a general understanding of economics as it affects and can be influenced by the manager. Examples of subject areas covered include monetary and fiscal policies, national income and product, demand and cost analysis, pricing, theory of production, profit and income determination and forecasting.

Full course.

Mr. Kiltv.

310. ORGANIZATION BEHAVIOR.

This course is designed to give students an opportunity to experience and investigate the relevancy to management of a series of topics whose bases can be found in psychology, social psychology, and sociology. In general the course will explore the interaction between individuals and the systems in which they live and work, including the impact on people (and vice-versa) of their own individual

characteristics, interpersonal interactions, group situations, and organization structures.

Full course.

Mr. Plovnick.

311. SEMINAR IN ORGANIZATION BEHAVIOR.

Variable credit.

Staff.

315. SEMINAR IN ORGANIZATION THEORY.

This seminar is primarily oriented to those students who desire a more thorough background in and understanding of, the literature in the area of management and organization behavior. Through readings and discussion the course will trace the evolution of organization theory to modern theories of organization design and managerial behavior.

Full course.

Mr. Plovnick.

320. ORGANIZATION DEVELOPMENT.

A survey of and introduction to the field of organization development and change. The course covers the behavioral science theories associated with organization development and an overview of the technologies and methods typically employed in the practice of OD.

Prerequisite: MGMT. 310.

Full course.

Mr. Burke.

321. GROUP DYNAMICS.

A study of small group behavior in an organization context. The class itself is used as "self study" to understand group behavior. The course covers (a) a brief but comprehensive survey of small group research findings, (b) the primary concepts of group dynamics, e.g., norms, cohesion, conformity, goals, influence, and values, and (c) special topics related to management and organization change such as group decision making, planning and conducting meetings, and small group leadership.

Full course.

Mr. Burke.

322. CONSULTING STRATEGIES AND SKILLS.

A study of the consultant as a change agent. Consultation is considered both from the perspective of an external person to an organization and an internal person, that is, an employee of the organization. The general frame of reference is organization development consultation and emphasis is placed on understanding various strategies and methods of consulting as well as on the skills involved. Prerequisites: MGMT. 320. and 321.

Full course.

Mr. Burke.

325. PERSONNEL MANAGEMENT.

This course will cover the general areas of human resource management to include job design, recruitment, management development, performance appraisal, counseling, labor relations, and collective bargaining, wages and fringe benefits, EEO, OSHA requirements, manpower planning, and women in management.

Full course.

Staff.

330. MARKETING MANAGEMENT.

This course surveys the role of marketing in business and in society, focussing on specific marketing activities. Topics include the study of consumer behavior, market segments, and product positioning, new product development and policy, pricing, distribution, advertising, and sales management. The course combines background material with case analysis to supply experience in weighing all marketing factors in managerial situations. Prerequisites: MGMT. 302. and 303. Full course.

331. SEMINAR IN MARKETING MANAGEMENT.

Variable Credit.

Staff.

332. APPLIED MARKETING PROJECTS.

A "workshop" seminar for all students involved in Applied Marketing Projects. The seminar meets weekly with students critiquing each others work. Topics are assigned as required by the research in progress. Prerequisite: MGMT. 331.
Full course.

Mr. Moody.

335. INTERNATIONAL MARKETING.

This course takes a management approach and considers the problem of marketing across national boundaries and within a number of different national markets. The international environment, the problems and decisions facing marketing managers such as the kinds of products, pricing, and promotion, etc., necessary to coordinate the firms' international activities will be covered. Cases, research projects, occasional guest lecturers, readings will be used to supplement classroom work. Prerequisite: MGMT. 330.
Full course.

Mr. Kilty.

340. FINANCIAL MANAGEMENT.

A comprehensive study of financial decision-making from the perspective of the internal financial manager. Topics covered include both the varied sources of financing and the efficient allocation of resources. The main format is the use of accounting data to implement economic models. Prerequisites: MGMT. 301., 302., and 303. Full course.

Mr. Smith.

341. SEMINAR IN FINANCIAL MANAGEMENT.

Variable credit.

Staff.

342. INVESTMENTS.

Course will cover investment principles, market behavior, and investment strategy. Investment principles will include:
Portfolio selection, both fundamental analysis (security analysis) and portfolio theory (technical analysis); debt instruments and money markets; the stock option market; alternative investments—private placements, real estate, land, tax shelters. Students will receive a substantial sum of "money" to invest individually. The objectives will be the discipline of following the dynamics of the market, the experience of investment emotions and a means to apply

actual stock selections. Guest speakers from various sections of the investment community will be invited to present their views and be available for discussion.

Full course.

Mr. Menides.

344. FEDERAL TAX ACCOUNTING.

A basic course in the principles of Federal Income Tax Laws as pertains to individuals, partnerships, corporations, estates, and trust. A study of the general rules and accounting principles required, with emphasis on preparation of tax returns via specific problem analysis.

Full cost.

Mr. Hurwitz.

346. HEALTH CARE FINANCE.

This course will cover complex areas of study, such as the processes of rate-setting, Medicare reimbursement and risk management in the context of what is going on right now. The goals of the course are to engender sensitivity to National Health Care issues, such as National Health Insurance and to give greater qualifications to the student who may wish to turn his or her career to the health care field, one of the few growth areas left in the economy.

Full course.

Mr. Fellner.

350. OPERATIONS MANAGEMENT.

This course will survey techniques in the area of model building and operations research. Emphasis will be on topics oriented toward business forecasting, and rational decision-making by managers. Topics to include model formulation, Bayesian statistics, linear programming, dynamic programming, time series analysis, queueing theory, and analysis of variance. Prerequisites: MGMT. 301., 302., and 303.

Full course.

351. SEMINAR IN OPERATIONS MANAGEMENT Variable credit.

Staff.

360. BUSINESS POLICY.

Business policy focuses on those general management skills involved in choosing the strategy, or goals and purposes, of the organizations and in committing critical resources to these goals. The course also integrates the major management functions, viewing the organization as an organic entity comprising a system in itself but impacting on and impacted by its environment. The method of instruction will be case-study. Prerequisites: MGMT. 310., 330., 340., 350.

Full course.

Mr. Naumes.

372. WOMEN IN THE WORK PLACE.

The course proposes to provide the student with an understanding of theories in the areas of behaviorism, personality, and cognitive development as they relate to the recent research findings of women in the work force. Topics will include attitude formation and change, prejudice and discrimination, stereotyping, out-role behavior, assertiveness, career advancement and job modality stress, and power relationships. The instructional format will be comprised

of lectures, class discussions, films, and exercises in group dynamics.
Full course.

Mr. & Mrs. Ewald.

378. LEGAL ASPECTS OF MANAGEMENT.

The course examines the legal framework within which American Business operates. It is concerned with the various laws that determine both the rights and obligations of persons taking part in business transactions. Emphasis will be on those areas of the law which are commonly encountered by the business manager such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection and tort liability. The goal will be to provide the student with a basis and understanding of the business/legal environment which will guide future management decisions and inquiry. The methods employed will be assigned textual readings and class discussion of cases selected to illustrate these topics.

Full course.

Mr. Fries.

384. MULTI-NATIONAL BUSINESS.

The course will be a survey course which will cover such functional areas as organization, marketing, finance, planning and the multinational environment. We will cover strategies for developed and developing countries, with specific reference to Europe and Latin America.

Full course.

Mr. Kilty.

385. SMALL BUSINESS MANAGEMENT.

A survey of the particular problems involved in the initiation and operation of a small business with special emphasis on the problems of market structure, finance, and productivity. Entrepreneurial organization and style are discussed relative to a growing and increasingly complex society. Case study and field research projects are the primary method of instruction.

Full course.

Mr. Shakow.

393. ISSUES IN PUBLIC ADMINISTRATION.

The purpose of this course is to provide an introduction, an overview and a critical examination of major issues in public administration. The structure of the course will be organized around six general questions: (1) What is Bureaucracy? (2) What do bureaucracies do? (3) How are they run? (4) Who controls them? (5) What are the problems of bureaucracy? (6) How can bureaucracies be improved? The central issues in public administration will be analyzed and discussed in relationship to these questions. Full course.

Mr. Fischgrund.

Mathematics

10. MATH CLINIC AND TUTORIAL.

Full course, Semester 1.

Mr. Stubbe.

11. INTRODUCTION TO MATHEMATICS.

Full course, Semester 1.

Mr. Mancevice.

12. CALCULUS.

Full course, Semester 1.

Ms. Srinivasan.

13. INTERMEDIATE CALCULUS.

Full course, Semester 1.

Mr. Poreda.

15. PROBABILITY AND CALCULUS FOR THE SOCIAL AND LIFE SCIENCES. (Not Offered, 1977-78)

16. HONORS CALCULUS.

Full course, Semester 1.

Mr. Cline.

- 100. MATHEMATICAL MODELS. (Not Offered, 1977-78)
- 120. LINEAR PROGRAMMING. (Not Offered, 1977-78)
- 124. INTRODUCTION TO GEOMETRY.

Full course, Semester 1.

Ms. Srinivasan.

125. THEORY OF NUMBERS.

Full course, Semester 2.

Ms. Srinivasan.

- 140. INTRODUCTION TO MATHEMATICAL LOGIC. (Not Offered, 1977-78)
- 145. ELEMENTARY DIFFERENTIAL EQUATIONS. (Not Offered, 1977-78)
- 150. SEMINAR IN MATHEMATICAL METHODS AND MATERIALS. (Not Offered, 1977-78)
- 160. PROBLEMS SEMINAR. (Not Offered, 1977-78)
- 214. MODERN ANALYSIS.

Full course, Semester 1.

Mr. Cline.

- 215. MODERN ALGEBRA. (Not Offered, 1977-78)
- 216. INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE.

Full course, Semester 1.

Mr. Tepper.

217. PROBABILITY AND STATISTICS.

Full course, Semester 1.

Mr. Kilmoyer.

- 221. CALCULUS OF VARIATIONS. (Not Offered, 1977-78)
- 244. DIFFERENTIAL EQUATIONS. (Not Offered, 1977-78)
- 250. APPLIED GROUP THEORY. (Not Offered, 1977-78)
- 292. TOPICS IN TOPOLOGY. (Not Offered, 1977-78)
- 300. SETS AND TOPOLOGY. (Not Offered, 1977-78)
- 316. FUNCTIONS OF A COMPLEX VARIABLE. (Not Offered, 1977-78)
- 318. FUNCTIONS OF A REAL VARIABLE.

Full course, Semester 1.

Mr. Poreda.

- 321. ALGEBRAIC TOPOLOGY. (Not Offered, 1977-78)
- 325. ADVANCED MODERN ALGEBRA. (Not Offered, 1977-78)

Philosophy

100. PROBLEMS OF PHILOSOPHY. Full course, Semester 2.

Mr. Anderson, Mr. Derr.

101. INTRODUCTION TO LOGIC. Full course, Semester 1.

Mr. Overvold.

110. PROBLEMS OF PHILOSOPHY. Full course, Semester 1.

Mr. Beck.

121. HISTORY OF ANCIENT PHILOSOPHY.
Not open to freshmen.
Full course, Semester 1.

Mr. Anderson.

124. KANT AND THE NINETEENTH CENTURY. Full course, Semester 1.

Mr. Wright.

125. HISTORY OF CONTEMPORARY PHILOSOPHY. Full course, Semester 2.

Mr. Overvold.

Mr. Anderson.

141. PROBLEMS OF ETHICS. (Not Offered, 1977-78)

145. EXISTENTIALISM.
Full course, Semester 2.

Staff.

155. PHILOSOPHY OF SCIENCE I.

An examination of the central issues germane to an understanding of the status of science: The nature of explanation, the metaphysical status of theoretical terms, the rationality of "revolutionary" theory changes, the nature of objectivity. Prerequisite: One full course in philosophy.

Full course, Semester 1.

Mr. Derr.

162. PHILOSOPHY OF ARCHITECTURE: EUROPE AND AMERICA.

Ideas of space play a vital role in shaping human existence. The purpose of this course is to consider the dialectic between European and American notions of space as they have developed historically both in theory and in practice. Philosophical reflections on the various aspects of space will be integrated with ideas of space explicit and implicit in other academic disciplines such as geography, comparative literature, history, and the arts. Film, slides, and field trips will expose students to the embodiment of general ideas in concrete architectural structures such as houses, villages, cities, castles, cathedrals, bridges, libraries, skyscraper, and gardens.

Full course, Semester 1.

171. KANT (Not Offered, 1977-78)

175. METAPHYSICS.

Full course, Semester 1

Mr. Derr.

186. PHILOSOHPY OF SCIENCE II. (Not Offered, 1977-78)

220. - 240. SEMINARS IN PHILOSOPHY. (Not Offered, 1977-78)

221. PHILOSOPHY OF MIND.

Full course, Semester 1.

Mr. Overvold.

290. PHILOSOPHY OF EDUCATION.

Full course, Semester 1.

Mr. Beck.

Physics

- 1. PHYSICS FOR ARTISTS, POETS, AND PHILOSOPHERS. (Not Offered, 19-7-78)
- 11. INTRODUCTORY PHYSICS.

An introductory course designed for both science majors and for the general student desiring a rigorous and challenging survey of physics. The course stresses the simplicity and self-consistency of physical models and mathematical laws in explaining a variety of phenomena. Topics include Newtonian and relativistic mechanics, thermal physics, electro-magnetism, basic electrical circuit theory, optics, quantum physics and nuclear physics. Calculus is not a prerequisite or corequisite although some of its concepts are developed as part of the course. Together with the Physics 19. Laboratory (see below), Physics 11. satisfies the requirements for majors in Biology and Science, Technology and Society. It also satisfies requirements for students in the pre-medical program. The course may be selected by Physics majors desiring a less mathematically rigorous introduction to the subject than that of Physics 12. Three 50-minute lectures per week plus a discussion hour once a week for two course credits. Two sections of the course are offered with one section restricted to freshmen and sophomore students. Full course, Semesters 1, 2. Mr. Davies,

164. ELECTRICITY AND MAGNETISM.

Full course, Semester 1.

Mr. Kohin.

Mr. Kohin.

201. and 301. CLASSICAL THEORY OF FIELDS

Classical theory of fields offers full course credit for each semester.

Full course, Semester 1.

Mr. O'Neill, Mr. Weiss.

209. and 309. STATISTICAL MECHANICS.

Full course, Semester 1.

Mr. Davies.

Psychology

101. GENERAL PSYCHOLOGY.

Unless otherwise stated, Psychology 101. is a prerequisite to all other psychology courses.

Full course, Semester 1.

Mr. Stevens.

105. QUANTITATIVE METHODS.

Full course, Semester 1.

Ms. Falmagne.

141. PRIMATE SOCIAL BEHAVIOR. (Not Offered, 1977-78)

150. INTRODUCTION TO CHILD PSYCHOLOGY.

Full course, Semester 1.

Staff.

162. PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR.

Full course, Semester 2.

Mr. Bibace.

169. THE PSYCHOLOGY OF LOVE AND HATE. (Not Offered, 1977-78)

170. INTRODUCTION TO SOCIAL PSYCHOLOGY.

Full course, Semester 2.

Mr. Sampson.

172. PSYCHOLOGY OF PERSONALITY.

Full course, Semester 1.

Mr. Laird.

173. ABNORMAL PERSONALITY.

Full course, Semester 2.

Mr. Bibace.

184. PHENOMENOLOGICAL PSYCHOLOGY.

Full course, Semester 1.

Mr. de Rivera.

- 185. HUMANISTIC PSYCHOLOGY. (Now Offered as 243. HUMANISTIC PSYCHOLOGY AND SOCIAL CHANGE.)
- 192. CONCEPT OF SPACE IN PSYCHOLOGY. (Not Offered)
- 193. INTERPRETATION OF DREAMS.

This is a course dealing with the exposition, application, and critical evaluation of various systems of dream interpretation. Included will be the systems of Freud, Jung, Stekel, Boss (phenomenological), May (existentialist), Erikson, Gestalt therapists (e.g., Perls), and others. Problems of "validity of interpretation" will be discussed, and the relation of dream interpretation to the interpretation of other "products of the imagination" will be examined. This course is accessible to students from all levels, freshmansenior. Limited enrollment. Prerequisite: permission of the instructor.

Full course, Semester 1.

Mr. Kaplan.

202. LABORATORY IN CHILD RESEARCH.

Full course, Semester 1.

Mr. Damon.

- 204. LABORATORY IN LEARNING. (Not Offered, 1977-78)
- 206. LABORATORY IN PERSONALITY.

Full course, Semester 1.

Mr. Laird.

207. LABORATORY IN PERCEPTION.

Full course, Semester 1.

Mr. Whiteside.

208. LABORATORY IN CHILD PSYCHOLOGY.

Full course, Semester 2.

Staff.

- 217. RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD. (Not Offered, 1977-78)
- 218. RESEARCH IN ANIMAL BEHAVIOR.

Full course, Semester 1.

Mr. Stevens,
Mr. Thompson.

222. RESEARCH IN HUMAN COGNITION.

Projects might include: (1) studies of semantic memory; (2) hemispheric differences in meta contrast; and (3) multidimensional sealing analysis of memory encoding. Prerequisite: permission of the instructor.

Full course, Semester 1.

Mr. Schmuller.

230. THE PHYSIOLOGY OF BEHAVIOR.

Full course, Semester 1.

Staff.

231. COGNITIVE DEVELOPMENT (Not Offered, 1977-78)

240. DEVELOPMENTAL APPROACHES TO BEHAVIOR.

Full course, Semester 1.

Mr. Kaplan.

246 (a). PRINCIPLES OF BEHAVIORAL EVOLUTION I: FUNDAMENTALS.

The genetic, ontogenetic, population and social mechanisms underlying the evolution of behavior. (The course will read extensively in the 19th century literature on evolution, then come forward through the early 20th century to contemporary writers such as K. Lorenz, N. Tinbergen and finally E.O. Wilson.) Prerequisite: permission of the instructor, Introductory Biology or Psychology normally prerequisite, but open to Freshmen with special qualifications by negotiation with instructor.

Full course, Semester 1.

249. PSYCHOLOGY OF DEATH. (Not Offered, 1977-78)

260. THE HISTORY AND PRESENT STATUS OF INSTINCT.

Full course, Semester 1.

Mr. Thompson.

261. HUMAN NEUROPSYCHOLOGY.

Full course, Semester 1.

Ms. Kaplan,

Ms. Oscar-Berman,

Mr. Benson,

Mr. Butters,

Mr. Goodglass,

Mr. Howes,

Mr. Mirsky,

Mr. Rosen,

Mr. Rosenfield,

Mr. Zurif.

262. INFORMATION PROCESSING - MEMORY AND PERCEPTION.

Full course, Semester 1.

Ms. Oscar-Berman,

Mr. Butters,

Mr. Cermale.

263. CLINICAL SEMINAR - LANGUAGE DISORDERS. (Not Offered)

264. CLINICAL SEMINAR - NON-LANGUAGE DISORDERS. (Not Offered)

265. INFORMATION PROCESSING - NEUROLINGUISTICS. (Not Offered, 1977-78)

268. PSYCHOLINGUISTICS. (Not Offered, 1977-78)

280. CURRENT PROBLEMS IN CHILD PSYCHOLOGY. (Not Offered)

285. FIELD THEORETIC APPROACH TO ACTION AND EMOTION.

The basic motivational dynamics that underlie willed action appear to differ from the dynamics underlying emotion. After a close examination of the field theory of action and emotion and of the structural theory of emotion, we will attempt to construct a theory that can relate action and emotion as we experience them. Prerequisite: permission of the instructor.

Full course, Semester 1.

Mr. de Rivera.

289. PSYCHOLOGY FROM THE VIEWPOINT OF AN ORGANISMIC-DEVELOPMENTALIST.

A systematic, integrated overview of the field of psychology for senior psychology majors. Using organismic-developmental theory as an integrating framework, paradigmatic problems and methods in psychology will be surveyed with a major focus on the interrelationship of assumptions, hypotheses and empirical findings in each area. A variety of phenomena of central interest to psychologists will be treated utilizing such concepts as levels of organization, person-environment systems, structure-function relationships. The course will be conducted in seminar fashion, and students will be expected to participate actively by analysing relevant empirical work, giving presentations, etc. Prerequisite: Permission of the instructor.

Full course, Semester 1.

Mr. Wapner.

298. SUPERVISED PRACTICUM AND DIRECTED READINGS IN USE OF PSYCHOLOGICAL KNOWLEDGE AND METHODS IN PRACTICAL SETTINGS.

Experience in practical settings in work related to the subject matter of psychology, with appropriate directed readings. The practical activity must be an extension, embodiment or illustration in some significant way of psychology courses taken previously or concurrently. Must be sponsored and supervised by a member of the Clark psychology faculty who will be responsible for evaluating the student's work through examination, term paper, or oral presentation. Amount of academic credit may not exceed the amount of credit in the course to which the practical activity is related, and may substitute for one of the two required upper-level seminars (in the 240-289 range) unless one of the courses offered in satisfaction of that requirement is Psychology 251. Current Concepts in Mental Health. Enrollment must be approved by course coordinator.
Full course, Semester 1.

Mr. Baker, coordinator.

- 300. PRO-SEMINAR -- DEVELOPMENTAL PSYCHOLOGY. (Not Offered, 1977-78)
- 301. PROBLEM, THEORY AND METHOD IN PSYCHOLOGY.

Full course, Semester 1.

Mr. Wapner.

302. STATISTICAL METHODS.

During semester one, the theoretical foundations of inferential statistics are discussed. Topics include probability, sampling distributions, and hypothesis testing. The second semester is concerned with complex analysis of variance designs and regression. Also, students learn to use the statistical package on the University computer.

Full course, Semesters 1, 2.

Mr. Schmuller.

303. PROSEMINAR IN EXPERIMENTAL PSYCHOLOGY.

An introduction to psychophysics, sensory processes, theories of perception, theories of learning, memory, language, information processing, higher mental processes, including the biological bases thereof. This seminar is designed to give students basic concepts

in classical and contemporary psychology and to survey the theories, major findings, and contemporary issues in those areas. Several faculty members will conduct the class, each being responsible for the section of the course in his/her area of specialization. Full course, Semesters 1, 2.

Ms. Falmagne.

Mr. Schmuller,
Mr. Stein,
Mr. Stevens,
Mr. Whiteside,
Mr. Wiener.

- 304. FORMAL MODELS FOR PSYCHOLOGY. (Not offered, 1977-78)
- 308. RESEARCH PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY. (Not offered, 1977-78)
- 311 (a). CLINICAL METHODS I. Full course, Semester 1.

Ms. Kellett.

- 314. TOPICS IN PERCEPTION. (Not offered, 1977-78)
- 317. BEHAVIOR IN INFANCY. (Not offered, 1977-78)
- 319. ADVANCED SEMINAR ON ORGANISMIC-DEVELOPMENTAL APPROACHES TO BEHAVIOR. (Not offered, 1977-78)
- 320. ADVANCED SEMINAR IN GENETIC-STRUCTURAL THEORIES.
 Full course, Semester 1. Mr. Kaplan.
- 324. THEORIES OF PERSONALITY I: ISSUES IN THE PHILOSOPHY OF PSYCHOLOGY.
 Full course, Semester 1. Mr. Wiener.
- 325. THEORIES OF PERSONALITY II: EXPLORATION OF EXEMPLAR THEORIES OF PERSONALITY. (Not offered, 1977-78)
- 327. MORAL DEVELOPMENT. Full course, Semester 1.

Mr. Damon.

- 329. INTRODUCTION TO INTERVIEWING. (Not offered)
- 331. CLINICAL METHODS II. Full course, Semester 1.

Mr. Ciottone.

338. CONCEPTIONS OF PERSON. Full course, Semester 2.

Mr. Laird.

- 339. SEMINAR ON THE EFFECTS OF EARLY EXPERIENCE. (Not offered, 1977-78)
- 340. PHENOMENOLOGY OF INTERPERSONAL RELATIONS.

Techniques of observation and the purpose of inquiry necessarily influences the course of experience. How are we to validate the different descriptions that ensue? In this seminar we will contrast the investigation and description of experience as it develops in: a taped psychoanalytic case, the course of practice in Buddhist meditation, one of Merleau-Ponty's phenomenological inquiries, the observational-interview techniques developed by Kurt Lewin and his students, and the structural analyses of emotions.

Staff.

Mr. de Rivera. Full course, Semester 1. 351 (a). CLINICAL METHODS III. Mr. Finkel, Full course, Semester 1. Ms. Kaplan, Mr. Sampson. 351 (b). CLINICAL METHODS III. Mr. Bibace. Full course, Semester 2. 352. CLINICAL METHODS IV. Mr. Baker, Full course, Semester 1. Mr. Cirillo 353. THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION. Mr. Peterson. Full course, Semester 1. 360. SEMINAR: CURRENT APPROACH TO THINKING I. (Not offered, 1977-78) 380. RESEARCH IN PSYCHOLOGY. Staff. Full course, Semester 1. 381. READINGS IN PSYCHOLOGY. Staff. Full course, Semester 1.

389. INTERNSHIP IN PSYCHOLOGY.

Full course, Semester 1.

Sociology

120. INTRODUCTION TO SOCIAL ANTHROPOLOGY.

An analysis of non-western societies with a focus on social structures. The emphasis will be on the development of a comparative perspective and a non-ethnocentric perspective on our own culture. Theoretical and topical interests differ with instructor.

Full course, Semester 1.

Mr. Gerber.

Full course, Semester 2.

Ms. Sacks.

- 250. CRIMINOLOGY. (Not Offered, 1977-78)
- 210. WOMEN AND CRIME.

In traditional criminology, women's role in the criminal justice system is seldom a topic of focus. This course will concentrate on the role of women, both as criminal offenders and as the primary targets of male offenders. We will explore the traditional felony crimes such as murder, robbery, victimless crimes, prostitution; treatment of women in courts and prison; victimology, such as rape and battered wives; and women workers within the criminal justice system, i.e., policewomen, etc.

Full course, Semester 1.

Ms. Stanko.

267. POLITICAL ANTHROPOLOGY.

This course includes an examination of varying levels of social-political culture. Cultures viewed will include hunters and gatherers, contemporary Russia and selected African societies. A certain amount of attention will be given to Caribbean political systems and movements.

Full course, Semester 1.

Mr. Gerber.

History 280. BLACK AND WHITE IN GHANA. Full course, Semester 1.

Mr. Von Laue.

288. SEMINAR IN POLITICAL ECONOMY.

The seminar will introduce the Marxian mode of analysis and then apply it to some major themes in political sociology. It will use the Classical writings of Marx and Engels, but will include work being done by contemporary Marxists, neoMarxists and their critics. Some of the topics, beyond the introductory material, which will be addressed are: Class structures and class consciousness; the state in capitalist society; the political economy of the cities. Students should be prepared to make class presentations and write papers.

Full course, Semester 1.

Mr. Ross.

Mr. Kasperson.

Science, Technology and Society

- 131. SOLAR ENERGY. The course will consist of a critical survey, from the viewpoint of physical science, of existing and proposed methods of utilizing solar energy. The course is designed for the general student and no particular background in the physical sciences will be assumed. The science needed will be introduced in a nonrigorous way. However, the student will be expected to become proficient in analyzing and evaluating simple systems quantitatively. Topics to be dealt with include a history of solar energy applications, the use of solar energy for space and water heating, the limitations imposed upon our use of energy by thermodynamic laws, and an analysis of methods of producing work from solar energy (e.g. solar heat engines, wind, solar cells, ocean thermal gradients, biological methods, etc.). Economics as such will not be employed in the course. However, limitations of cost imposed by physical laws will be analyzed. Students will also be made familiar with experimental solar devices now at Clark. The course is recommended for (but not required of) students planning to take STS 132, Solar Energy Laboratory. Mr. Davies. Full course, Semester 1.
- 178. NUCLEAR ENERGY POLICY ISSUES.

 A survey of major issues relevant to the evaluation of nuclear power. After an historical introduction, the course will deal with the problems of resources, economics, hazards, and regulation of nuclear energy in the United States. Focus will be on the issues themselves, as well as the way the public perceives them. The format of the course will be 7 weeks of intensive lectures and reading, followed by 7 weeks of student project work. Students are expected to demonstrate literacy in the issues at the end of the semester, and to present an acceptable research paper. The course will be given at WPI, and is a joint offering of the Clark Program on Science, Technology and Society and the WPI Department of Social Science and Policy Studies. (See also Government 178.)

 Full course, Semester 1.
- 222. SEMINAR IN THE DYNAMICS OF CLIMATE AND SOCIETY. STS. (See also as Geography 222) (Not offered, 1977-78)
- 231. ELECTRICITY: ECONOMIC AND ENVIRONMENTAL ISSUES.

 Electrical energy has played a key role in the growth and development of industrial society, but its benefits have not been realized without

economic and social penalty. This course will examine the public policy issues raised in connection with future use of electricity, with emphasis on questions of demand, supply, and environmental effect. Background will be provided on topics such as the physical nature of power supply systems, the organization and planning practices of the utility industry, and the system of legal controls established by government. Methods of economic and institutional analyses will then be used to address issues such as the choice between different production technologies, the projection of future demand, and the pricing of electricity. Attention will also be devoted to a critical evaluation of present arrangements for dealing with the electricity-environment conflict, as manifest in numerous siting controversies. Case studies of current developments such as the debate over public power and the opposition to the Seabrook nuclear power plant will be used to bring key issues into focus. Field trips and quest lecturers will also be arranged where appropriate. Prerequisite: Permission of instructor. (See also Economics 231.)

Full course, Semester 1.

Mr. Ducsik, Mr. Shakow.

235. COASTAL ZONE MANAGEMENT SEMINAR. 235, (Not offered, 1977-78)

(See also Geography

270.1. SPECIAL TOPICS IN SCIENCE, TECHNOLOGY AND SOCIETY: HOME ENERGY CONSERVATION.

The Clark STS Program has received a grant from the Massachusetts Energy Policy Office to operate a telephone-based energy conservation information and referral service. Students will spend 10-15 hours per week* taking calls on the "energy phone," and will be required to do whatever follow-up research is necessary to provide homeowners and other interested parties with appropriate answers to their questions on conservation, alternative energy sources, and related matters. A training program will be conducted by the staff of the Energy Policy Office, and periodic staff meetings and seminars will be held throughout the semester. Some background in energy studies is desirable. Limit: 25 students. Graded Credit/No Record. Prerequisite: Permission of the instructor.

Half course, Semesters 1, 2.

*Note: Compensation will be provided at the minimum wage rate for time spent manning telephones.

Visual and Performing Arts

ART

- 108. SEPULCHRAL ART. (Not offered, 1977-78)
- 120. ITALIAN RENAISSANCE ART: 15TH CENTURY. (Not offered, 1977-78)
- 122. MICHELANGELO AND THE HIGH RENAISSANCE. Full course, Semester 1.

Mr. Cowardin.

- 123. VENETIAN ART. (Not offered, 1977-78)
- 130. 17TH CENTURY THE HIGH BAROQUE. (Not offered, 1977-78)
- 131. 18TH CENTURY ROCOCO TO REVOLUTION. (Not offered, 1977-78)
- 140. MODERN ART 19TH CENTURY. Full course, Semester 1.

Ms. Grad.

145. AMERICAN ART: 1835-1945.

This course surveys painting in the United States from the Hudson River School of landscape painting to the early work of the abstract New York School. One issue which will receive particular attention is the interplay between American and European art, and the reasons for the changing attitudes of the American artist toward European painting. A contrast is drawn between those artists who emulated and synthesized the work of their European contemporaries, and those who rejected that work in search of a purely "American" expression. Also treated will be the image of nature and technology in American painting—two subjects which have often been accorded special significance in this country, and which relate American painting to wider cultural attitudes and social developments. Major artists and movements will be discussed.
Full course, Semester 1.

150. INTRODUCTION TO ORIENTAL ART: ANCIENT NEAR EAST AND INDIA.

A preliminary look at the near East is designed to acquaint the student with the styles and iconography of ancient Mesopotamian and Iranian art as a background for developments in India and Central Asia. The major part of the course deals with Indian art from prehistoric times through the period of the Moslem dynasties, and with the spread of Indian culture into Indo-China and Indonesia. Monuments of Buddhist and Hindu art are studies and discussed in the light of the faiths which inspired them. The philosophy, mythology, and iconography of these faiths are the subject of background readings intended to inform the discussion. Aside from its intrinsic value, this material is basic to further study of Buddhist art in China and Japan.
Full course, Semester 1.

160. ELEMENTS OF ARCHITECTURE. (Not offered, 1977-78)

- 168. DRAWING: HISTORY AND TECHNIQUES. (Not offered, 1977-78)
- 172. VISUAL STUDIES.

May be repeated for additional credit. Full course, Semester 1.

Mr. Krueger.

- 176. DRAWING: PERCEPTION AND SELECTION. (Not offered, 1977-78)
- 188. CERAMIC DESIGN.

(At the Craft Center) Materials fee.

FILM STUDIES

- 10. INTRODUCTION TO FILM STUDIES I: THE ELEMENTS OF FILM. Full course, Semester I. Mr. Slatkin.
- 13. GREAT FILM DIRECTORS.

This year, attention will be paid to the work of Fritz Lang and Orson Welles. Full course, Semester 1. Mr. Hodgkinson.

14. LITERATURE OF FILM.

A seminar in which some of the significant books of film theory, aesthetics, history, etc. are studied in detail and in depth. Prerequisite: 10 and or 15, and one other Film course. Mr. Hodgkinson. Full course, Semester 1.

20. ESSENTIAL CINEMA.

This is a course which provides opportunities for viewing many important films of the past and their placing into historical and aesthetic context. The films are screened publicly at Worcester Public Library, with a weekly follow-up seminar on campus. Open to freshmen. Full course, Semesters 1, 2. Mr. Hodgkinson.

(Mr. Karcasinas, COPACE)

100. ELEMENTARY FILM PRODUCTION. Full course, Semester 2.

Mr. Slatkin.

INTER-DISCIPLINARY CREATIVE WORKSHOP. 89.

An inter-media group comprised of faculty and students. Students who have had training in either film, video, art, theatre, or music, and are ready to enter into advanced creative projects may work within the program of their interest. The group presents experimental workshops as well as a full production. Prerequisite: Permission of instructor.

Full course, Semesters 1, 2.

Mr. Slatkin. Staff.

MUSIC

121. PRIMARY THEORY.
Full Course, Semester 1.

Mr. Fuller.

- 12. MEDIEVAL AND RENAISSANCE PERIODS. (Not offered, 1977-78)
- 122. THEORY: MODAL COUNTERPOINT. (Not offered, 1977-78)
- 113. JS BACH AND HIS MUSIC. Full course, Semester 1.

Mr. Castonquay.

14. CLASSICAL AND ROMANTIC PERIODS. Full course, Semester 1.

Mr. Castonguay.

124. THEORY: 19TH-CENTURY PRACTICE. Full course, Semester 1.

Mr. Raffman.

- 16. THE MUSIC OF JOHANNES BRAHMS. (Not offered, 1977-78)
- 19. WORLD MUSIC.
 Full course, Semester 1.

Mr. Fuller.

130. JAZZ WORKSHOP.
Half course, Semester 2.

Mr. Raffman, Mr. Mueller.

131. JAZZ THEORY.
Full course, Semester 2.

Mr. Raffman.

THEATRE ART

- 10. INTRODUCTION TO DRAMA. (Not offered, 1977-78)
- 11. VOICE AND DICTION.
 Full course, Semester 2.

Mr. Schroeder.

17 (a). MOVEMENT FOR THE THEATRE.

Basic principles of stage movement technique and extension of the emotional range of the body. Prerequisite: Theatre Art 14, and permission of the chairperson. May be taken concurrently. Half course, Semester 1.

- 121. PRINCIPLES OF STAGE MANAGEMENT. (Not offered, 1977-78)
- 123. SCENE DESIGN.

Theoretical, historical, and practical study of scene design.

Development of scene design through the history of theatre will

be studied through designing and researching plays from several

periods and styles of theatre. People will be expected to work on

construction and painting of a production during the semester.

Prerequisite: Theatre Art 120.

Full course, Semester 1.

Ms. Allinson.

- 151. THEATRE HISTORY I. (Not offered, 1977-78)
- 153. EUROPEAN THEATRE IN THE 18TH AND 19TH CENTURIES. (Not offered, 1977-78)
- 161. THE AMERICAN THEATRE I.

A survey of American theatre and drama from colonial times to approximately 1920, including study of theatre architecture, scene and costume design, acting styles, production methods, audiences, and representative plays. No prerequisite. Offered in alternate years.

Full course, Semester 1.

Mr. Schroeder.

- 170. INTRODUCTION TO PLAY WRITING. (Not offered, 1977-78)
- 185. TENNESSEE WILLIAMS. (Not offered, 1977-78)
- 199. HOLY CROSS COURSES. (Not offered)
- 204. SEMINAR IN ACTING STYLES I a-b.

Continuing exploration of techniques in characterization. Laboratory in analysis and development of a major role. Scenes from the Modern

Theatre. Prerequisite: Theatre Art 14, 15, and permission of instructor.
Full course, Semester\$1, 2.

Ms. Sica.

- 205. SEMINAR IN ACTING STYLES II a-b. (Not offered, 1977-78)
- 206. ADVANCED TUTORIAL IN ACTING III. (Not offered, 1977-78)
- 207. ADVANCED TUTORIAL IN ACTING IV. (Not offered, 1977-78)
- 242. ADVANCED TUTORIAL IN DIRECTING I. (Not offered, 1977-78)
- 243. ADVANCED TUTORIAL IN DIRECTING II. (Not offered, 1977-78)
- 281. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA. (Not offered, 1977-78)
- 286. SEMINAR: IBSEN. (Not offered, 1977-78)
- 89. INTERDISCIPLINARY CREATIVE WORKSHOP. (See description under Film.)

Women's Studies

Eng. 116. MODERN FICTION BY WOMEN WRITERS. (See description under English)
Full course, Semester 1.

Ms. Hilsinger.

Govt. 108. COMPARATIVE POLITICS OF WOMEN. Full course, Semester 1.

Ms. Enloe.

Soc. 110. INTRODUCTION TO FEMALE STUDIES. Full course, Semester 1.

Ms. Sacks.

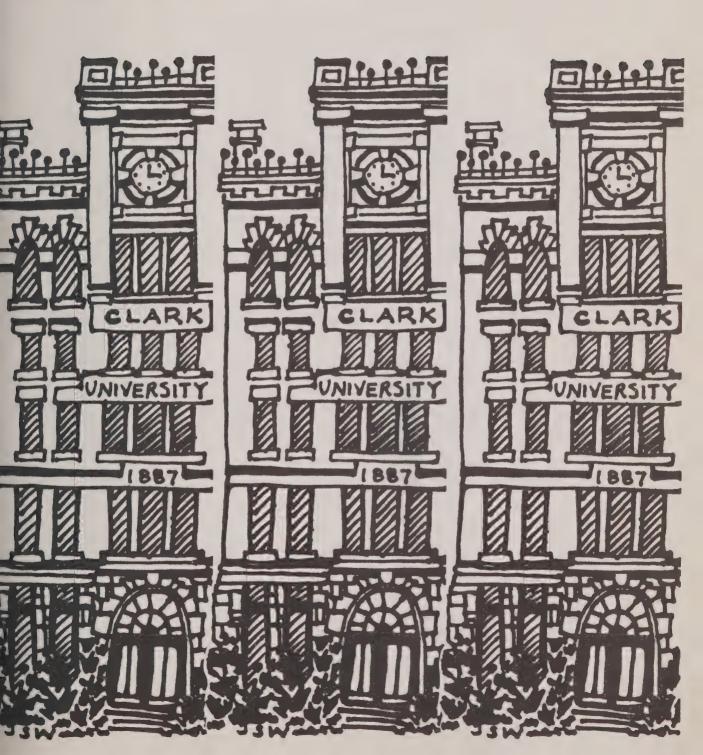
Soc. 210. WOMEN AND CRIME. Full course, Semester 1.

Ms. Stanko.

Clark University



Clark University



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Clark University

The New England Association of Colleges and Secondary Schools accredits schools and colleges in the six New England states. Membership in one of the six regional accrediting associations in the United States indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators. Colleges support the efforts of public school and community officials to have their secondary school meet the standards of membership.

It is the policy of Clark University not to discriminate against the applicant on basis of race, color, sex, religion, age, national origin, or presence of any handicap. The University encourages minorities, women, the handicapped, and persons between 40 and 65 years of age to apply.

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Clark University

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THE UNIVERSITY-COLLEGE

The role of Clark University in undergraduate education is defined by its position as a small college dedicated to advanced learning within the context of the University. The University's emphasis upon intellectual and scholarly achievement and the extensive resources of its nationally recognized Graduate School provide unique advantages for the college

In the spring of 1973, the University adopted the concept of the university-college as the ideal toward which all undergraduate academic planning and program development shoud be directed. The university-college concept seeks to integrate graduate and undergraduate education and to translate the high standards of the Graduate School for the University as a whole. The ultimate goal of the university-college is to develop persons characterized by such qualities as intellectual competence, personal maturity, well-developed skills in analysis, communication, critical thinking, and—perhaps most importantly—the capacity to work independently; that is, to be autonomous learners. Thus, programs are structured in such a way that students will take increasing responsibility for their own learning.

Clark University is uniquely qualified to develop such an undergraduate educational experience, and has pledged itself to do so. From its beginning, Clark has emphasized what its founding President, G. Stanley Hall, called "elbow teaching," the close personal relationship between student and faculty member, along with a dedication to excellence in teaching and research by its faculty, and the involvement of its students in all aspects of the intellectual life of the University.

INTRODUCTORY PROGRAM

principles.

(1978-79, this program is encouraged, not required) "What should I major in?" is a common question asked during Freshman orientation. If you do know what you want to do, that's fine, but if you don't, you'll have at least a year to decide. A new set of guidelines has been adopted by the Clark faculty which will make this decision easier. The program is designed to educate each student in a number of basic academic skills which may be applied to any discipline and will be essential for whatever major the student eventually decides upon. These courses, therefore, are expected to develop a student's critical faculties, with special attention to the learning of studying skills and the development of different perspectives. Although this program will not go into effect until the 1979-80 academic year, current freshmen are strongly encouraged to take advantage of what the faculty believe to be valuable

Every course at Clark involves work in critical thinking, but two sets of courses (which will be required of all students in 1979-80) place special emphasis on this skill. The first set, offered in many disciplines, is concerned with the development of the capacity to write clearly and

effectively. Clarity, precision, and cogency are qualities of thought; the effective and forceful use of language results from an activity as intellectual as it is verbal. The second set, offered in several departments, places special emphasis on logical and algebraic modes of thinking.

In order to broaden perspectives, each student will be required, in addition, to take three courses from different departments or programs selected from three of the following five categories:

- The Aesthetic Perspective: which includes the development of skills, and stresses the perception and expression of form.
- The Historical Perspective: which is concerned with the capacity to understand the contemporary world within the larger framework of tradition.
- The Natural Scientific Perspective: which includes the principal methods and results of the systematic study of the natural world.
- The Comparative Perspective: which includes the study of contemporary human diversity in all its forms as expressed in the geography, language, culture, or political systems of the human world.
- The Values Perspective: which studies the dimension of value in all domains of life and learning.

PROGRAM OF ADVANCED STUDIES

The Program of Advanced Studies leads to either the B.A. or M.A. degree and is composed of two major tracks. The expanded major involves study in the various departmental and interdepartmental programs of the college and results in the B.A. degree. The expanded major is not a departmental major in the traditional sense. Rather, it is a program of study which is anchored in a particular discipline but specifically builds in courses in related disciplines as an integral part of the major. Each major, therefore, becomes interdisciplinary in design. (In addition to prescribing minimal requirements for the new major, each department has been asked to design programmatic options within the enlarged scope. This concept recognizes the need for depth of knowledge, and speaks to this issue by acknowledging that intensive work in a major field is the core of the undergraduate experience. However, it also acknowledges that breadth of knowledge must be maintained as well, and yet that it can be achieved more meaningfully in other ways than through prescribed University-wide distribution requirements. Particular attention is placed on the coherence of the major program to others within the University, capstone experiences which encourage closure and reflection, and early research opportunities.)

Ordinarily, multiple tracks within the major will be provided. A student will take from 50 to 80 percent of his or her studies during the Program of Advanced Studies in the expanded major. This greater focus over the last three vears will permit greater depth and sophistication in the student's chosen field of study.

Integrated undergraduate-graduate programs

constitute the second track of the Program of Advanced Studies and lead to the M.A. degree. Enrollment in these programs is limited and requires formal admission. This ordinarily occurs at the end of the first year in the Program of Advanced Studies. These programs tend to be interdisciplinary in nature and have a strong career orientation. Over time, a network of such programs will become available to students in the university-college.

THE EXTENDED UNIVERSITY

Since Clark is a member of the Worcester Consortium for Higher Education, students may enroll for one course each semester at either Anna Maria College, Assumption College, the College of the Holy Cross, Worcester Polytechnic Institute, Worcester State College, University of Massachusetts Medical School, and Becker, Quinsigamond, and Worcester Junior Colleges.

Over four thousand students have cross-registered under the Consortium arrangement since 1968. Through the "extended University" then, Clark students immediately have available to them increased programs and course options. All of this is available at no extra charge to the students or their home institution.

Students from Holy Cross, Worcester Polytechnic Institute, and Clark University have worked together on a water pollution project. Consortium students have been involved in a lead-paint testing program. Engineering students from Worcester Polytechnic Institute, Massachusetts Medical School, and Quinsigamond Community College have worked with Clark students as a research unit for the Worcester Department of Public Health to conduct an infectious disease study. A health studies option which arranges student internships in health care organizations and internships with research scientists in laboratory settings, is available through the "extended University" as defined by the Worcester Consortium. A music option organized by the Department of Music chairpersons is also available. It is designed to accomplish three goals: to stimulate intercollegiate participation in performing groups, to encourage cross-registration in music courses, and to make available concentrated study for students with extensive music backgrounds. Courses at Consortium institutions should not duplicate those taught at Clark and require the approval of the department chairperson or, where necessary, the Dean of the College. Students enrolled in the day college may not enroll independently at other Consortium institutions and receive Clark credit. To help students select cross-registration courses, the Consortium office compiles a master course list by subject. This list appears prior to registration and is located in the Registrar's Office.

INTERNSHIPS

More than ever before, students are seeking to integrate their formal educational experience with their individual aspirations, preferences, and lifestyles. They

wish to tie together the theoretical knowledge they have gained in the classroom and the practical knowledge derived from the daily confrontation with reality. For many of these individuals, a non-traditional educational experience, such as an internship, offers an opportunity to achieve these ends.

An internship is an opportunity for a student to spend a semester working part- or full-time outside the University setting and to integrate this work experience with his or her academic program. Successfuly completed internships may be awarded University credit toward the undergraduate degree. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent systematic academic work. It must also take place under competent supervision by an agency sponsor and the learning involved must be formally evaluated by a Clark faculty member.

Students seeking more information on this topic should contact the Financial Aid Office, which has the responsibility of administratively coordinating internship opportunities for Clark undergraduates.

NON-TRADITIONAL EXPERIENCES

Academic experiences outside the normal curriculum (e.g., internship experiences, off-campus research, study at non-accredited institutions) are eligible for course credit. To qualify, an experience must involve an extension, embodiment, or illustration in some significant way of previous or concurrent systematic academic work. It must also take place under competent supervision and the learning involved must be formally evaluated by a Clark faculty member. The goals and structure of the experience must be agreed to by the instructor and the student *prior* to the beginning of the experience. Course credit will not be given for work that duplicates previous course work or other prior educational experiences. Students seeking information on this topic should contact the Internship Office or the Dean of Students.

STUDY ABROAD

Clark University has programs abroad in the French, German, and Spanish language areas:

French: Luxembourg
German: Trier, Cologne
Spanish: Guadalajara

Academic programs offering most fields of study are available for one semester or the entire academic year. In addition, at Trier and Guadalajara, Modular Term (May-June) programs are offered in German and Spanish, respectively.

Clark University has exchange relationships with the universities of Sussex and Manchester in England, permitting qualified Clark students in most fields of concentration one year of study in England.

For further information, and to explore the possibility of integrating study abroad into an undergraduate program

of study, contact Mr. Carter, Department of English, and Mr. Schatzberg, Department of Foreign Languages and Literatures.

A foreign study listing is available in the International Programs Office. All programs for study abroad must be approved by the College Board.

The Academic Programs

DEPARTMENTAL MAJORS

Within the Program of Advanced Studies, a student may major in biology, chemistry, economics, English, foreign languages (the foreign languages major is designated: in French, in German, in Spanish, in Romance Languages, or in foreign languages according to the program chosen), geography, government, history, international relations, mathematics, music, philosophy, physics, psychology, sociology, or theater arts. An interdepartmental major in Science, Technology and Society is also available. A major in studio arts is offered through a cooperative program with the School of the Worcester Art Museum. Courses in Black studies, classics, geology, management, criminal justice, Jewish studies, Russian, and women's studies are offered, but departmental majors are not available.

INTEGRATED GRADUATE-UNDERGRADUATE PROGRAMS

The University has inaugurated several new integrated undergraduate-graduate programs. These programs ordinarily begin during the junior year, continue for a period of approximately three years, and result in an M.A. degree. Clark undergraduate students and transfer students both are eligible for these programs and must apply for admission to them. Formal application to the Graduate School is required after a given period in the program. The newly approved programs are comparative literature, environmental affairs, and international development.

STUDENT-DESIGNED MAJORS

Any student can design his or her own major which focuses on a systematic body of knowledge not within the bounds of existing majors or departments. The student, with the advice of an advisory committee of three faculty members, will establish the major program which must then be approved by the Undergraduate Academic Board. Such majors must include a balance between upper and lower division courses and must be approved no later than the

start of the second semester of the junior year. The senior year includes the satisfactory completion of some specific work (e.g., senior thesis, an internship experience, senior tutorial) intended to integrate courses in the major and to demonstrate accomplishment. Within past years, students have designed majors in such areas as Urban Studies, Film Studies, Women's Studies, and Education and the Community.

DIRECTED READINGS AND SPECIAL PROJECTS COURSES

Most departments offer directed readings or special projects courses which may be entered with the permission of the instructor concerned. Directed readings courses comprise a sequence of structured readings on a given topic approved and directly supervised by the instructor. Special projects courses involve independent research by the student on a particular problem, as in laboratory work or field study. Both types of courses are offered for variable course credit but not to exceed a full course except by petition to the College Board. The number of course credits awarded on the basis of work performed is determined at the end of the course. Students may take up to two full course credits in Directed Readings, Special Projects, or some combination of the two in a given one-semester period. There is no limit on the total number of such courses which may be counted toward the B.A. degree.

THE MODULAR TERM

The Modular Term is an extension of the normal academic year at Clark University. Registration is optional and open to all Clark students as well as to qualified non-Clark students. This seven-week term provides a wide selection of normal departmental and interdepartmental course offerings supplemented by a number of special programs and academic opportunities unavailable during the fall and spring semesters.

It is possible, for example, to take a full year of a foreign language in this seven-week term. International field study and internship opportunities are also available.

The faculty is composed of the resident Clark faculty and invited visiting lecturers from other institutions and the Worcester community. A variety of recreational and extracurricular activities are also an integral part of the program.

Currently, Clark students may accelerate their academic program by taking courses in the Modular Term. Clark students who have registered for four full courses throughout semesters one and two may receive a 20 percent reduction on tuition to the Modular Term. In addition, Clark University dorm students may receive free dormitory accommodations during the Modular Term, while Clark off-campus students may receive a reduced rate for dormitory space during the Modular Term.

A catalog listing course offerings for the Modular Term is available in the spring.

AMERICAN STUDIES

Located in central New England, the Worcester area offers a rich variety of institutions and landscapes as a supportive setting for studying American culture and society. Our new program in American Studies offers students an inter-disciplinary approach to American civilization, with opportunities for intensive study in selected areas. From foundation courses mixing large parts of history, literature, and geography, students can tap the resources of many departments—and of central New England—in pursuing an American Studies concentration within the major of their choice.

JUDAIC STUDIES PROGRAM

Courses in Judaic Studies are offered at Clark in several departments in the following fields of study: Hebrew Language, Biblical Literature, Yiddish Literature, Intellectual History, Ancient History, and the Geography of Israel. Courses included in the program are listed under Judaic Studies.

TECHNOLOGY/SOCIETY STUDIES

Clark is one of only a few universities in the country to offer an undergraduate major in the interdisciplinary field



of Science, Technology and Society (STS). The STS Program is designed for students who expect to have a professional interest in dealing with current societal problems such as energy supply, environmental protection. or resource depletion. Courses in the program also service many students in other departments, particularly the sciences, who wish to add breadth to their studies within a more traditional field. For additional information, consult the Departments and Courses section of this catalog.

WOMEN'S STUDIES

There has been an increased concern and interest expressed in both the practical and scholarly concerns about social roles, biological theories, and cultural formulations of women's and men's positions in society. From such investigations there is a resulting body of literature, stemming from and contributing to, extant disciplines which examine these issues. Although we do not offer a major in Women's Studies, we do offer a group of courses in a variety of departments which speak to the issues raised by such concerns. These courses are crosslisted in individual departments.

WASHINGTON STUDIES PROGRAM

Clark participates in the Washington Semester Program of the American University in Washington, D.C., and the Washington Center for Learning Alternatives Internship Program.

Under the program, a small number of superior students may be nominated to attend the program, usually in the junior year, studying United States government in the nation's capital. Although any student may be interested in the program, the opportunity should be particularly attractive to students majoring in government, international relations, history, economics, or sociology. A credit of four courses is given for the program toward the bachelor's degree at Clark. Inquiry and application should be made to the chairman of the Department of Government and International Relations.

Requirements for a **Bachelor's Degree**

GENERAL REQUIREMENTS

Course requirements: Credit toward the Bachelor of Arts degree is expressed in terms of courses. A course, normally one semester in duration, involves three class meetings of 50 minutes each and three to four hours of laboratory, where appropriate, per week. A course may

sometimes be offered at half-strength or double-strength intensity over a half-semester.

Minimal academic performance: To graduate with the B.A. degree, a student must receive passing grades in the 32 full courses required for graduation; he or she must receive a C - or better in at least 24 of these courses. Equivalencies for students with fewer than 32 courses in residence will be established by the College Board.

For the purpose of transfer, a full course is equivalent to four semester hours credit.

RESIDENCE

Normally, at least one-half of the total number of courses required for a bachelor's degree, as well as at least one-half of the total number of courses taken for the fulfillment of the major, must be taken at Clark University. Of these, eight of the last 16 courses must be completed at Clark. This policy is presently under review by the Undergraduate Academic Board.

TOTAL COURSE REQUIREMENTS

Successful completion of a total of 32 full courses is required for the bachelor's degree.

GROUPS

Courses may be obtained at the undergraduate level in the following fields of instruction which, for administrative purposes, are known as "groups."

Group A. Science and Mathematics: biology, chemistry, experimental psychology, geology, mathematics, and physics.

Group B. Social Sciences: economics, education, geography, government, history, international relations, linguistics, philosophy, psychology, and sociology.

Group C. Language and Literature: English, classics, comparative literature, French, German, Hebrew, Italian, Russian, and Spanish.

Group D. Fine Arts: studio art, art history, music, theater art, and film.

Group E. Interdisciplinary Studies: environmental affairs: humanistic studies; Science, Technology and Society.

MAJOR REQUIREMENTS

Major: A departmental major consists of from 12 to 19 courses taken from those designated by the department in the Program of Advanced Studies. No department may require a student to take more than 19 courses in the expanded major, but a student may take more than 19 courses if he or she meets the other requirements for graduation.



REGISTRATION

Every student registers for a specific number of courses at the start of Semester 1 and Semester 2. A special registration will be held for Modular Term. Notification of the dates registration occurs is given in advance; failure to register within the announced period occasions a late registration fee. Students are strongly urged to register at advance registration. While enrolled at Clark during the academic year, a student will receive credit only for work registered at or through Clark.

UNDERGRADUATE PROGRAMS

The undergraduate normally carries a full program of four courses in a given semester. In general, a course meets three times weekly for a semester. Laboratory periods are usually three hours long. Students should consult their faculty adviser or major department when a questions of course or program selection arise.

Freshmen and sophomores may choose any course designated by the department as open to them.

Freshmen and sophomores are admitted to courses designated by numbers with the numeral 2 only with permission of the instructor and the department chairperson concerned, to whom the student must present evidence of high class standing and/or adequate preparation.

Juniors and seniors may elect any courses designated by numbers beginning with 1 or 2, indicating respectively courses which are primarily for undergraduates or for advanced undergraduates and graduate students. The selection by juniors and seniors of these courses is subject to any conditions stated in the course description.

Undergraduates may be admitted to courses designated by numbers beginning with the numeral 3 (indicating courses which are primarily for graduate students) with the approval of the Dean of the Graduate School.

DECLARATION OF THE MAJOR

The central role of the expanded major in the B.A. degree attaches considerable importance to the declaration of the major. A student must declare his or her intent to major in one of several departments no later than the start of the second semester, sophomore year. Changes in major after this point are possible but may prolong the undergraduate experience. Students are encouraged to seek faculty advice and give careful attention to their future program of study during the freshman year.

ACADEMIC ACCELERATION

The University encourages academic acceleration for qualified undergraduate students. A student may earn the

bachelor's degree in less than four academic years through a combination of Advanced Placement credit, overload course work, attendance in the Modular Term during the normal academic year, and participation in Summer Schools. No student may, except with the permission of the College Board, take overload work in his or her first semester in residence unless the overload is the result of co-recommended or co-required one-quarter or one-half courses (e.g., some science laboratory courses). Students may, after the first semester in residence, take up to four and one-half courses over a semester period. Academically qualified students (defined as three out of four courses with a B+ or better, and no D's, in all courses taken during the previous semester) may, with the signature of the student's adviser or department chairperson, be eligible for further overload course work.

GRADES

Reports on the work of each student are made at the end of each course. At the time of final registration, each undergraduate student must elect one of two reporting patterns for each of his or her courses, unless the option has been explicitly restricted for that course. First, the student may elect to receive an A, B, or C grade, with modifying symbols plus or minus, or D; or No Record. Second, he or she may elect to receive the letter P (indicating successful completion of the course at C — or better) or No Record. If the grading option is restricted by the instructor, the student may receive a Cr (indicating successful completion of the course at C — or better) or No Record. Courses in which students receive No Records do not appear on the student's permanent record.

The faculty accepts the following qualitative description of grades:

In reference to the Clark student body as a whole over the long run,

- A indicates work of distinction, of exceptionally high quality;
- B indicates good work, but not of distinction;
- C indicates satisfactory work;
- D indicates marginal work;
- NR indicates unacceptable work.

INCOMPLETES

A record of incomplete may be permitted by approval of the College Board or Deans of Students only when sickness or some other unavoidable circumstance prevents completion of the course. A record of incomplete incurred in the first semester must be made up no later than the following April 1; if incurred in the second semester or in the Modular Term, it must be made up no later than the following October 1. If a course is not completed within the specified time, the record of incomplete is changed to one of No Record.

EXAMINATIONS

Final examinations are given at the end of each course in many college courses. Approximately one week is set aside for each examination period and an attempt is made to distribute the examinations for any individual student throughout this period. Absence from a final examination, except for the most compelling reasons, may result in a No Record in the course. Other examinations and tests may be given at any time during the course at the convenience of the instructor.

CLASS ATTENDANCE

The college has no class attendance requirements. However, instructors have the prerogative of establishing such requirements for their own courses.

ELECTION OF THE PASS OPTION

The availability of the Pass option in virtually all courses is designed to help minimize the competitive aspects of grading for those who find competition harmful to learning. Some students may wish to elect a number of their courses on this basis.

All students should remember that the great majority of graduate and professional schools have expressed a preference for graded transcripts and encourage applicants to have many graded courses. Pre-professional students and those for whom graduate school is a goal should exercise caution in employing the Pass option. Similarly students who have interest in the attainment of honors such as Phi Beta Kappa and general course honors at graduation should exercise the Pass option cautiously.

RESTRICTION OF OPTION

A department may, with the approval of the Undergraduate Academic Board, restrict the grading option for its majors in the major program. An individual faculty member may, with the approval of the Undergraduate Academic Board, offer a course on a Credit/No-Record basis.

NON-CREDIT AUDIT STATUS

Persons not enrolled as full-time Clark students who wish to audit courses on a non-credit basis are invited to do so. Approval of the instructor of the course is required. In limited-enrollment or sectioned courses, regularly enrolled Clark students are given preference for available openings. Registration is arranged through the Registrar's Office. A fee of \$193 per course will be charged.

NOTE: Records for non-matriculating auditors are kept for only the semester in attendance. Transcripts are not issued at the conclusion of the course, nor at a later date.

WITHDRAWAL FROM COURSES

A student may withdraw from any course at any time during the first four weeks of classes, regardless of the grade thus far attained in that course, providing that, after withdrawal, he or she is carrying no fewer than three courses. Withdrawal from courses during the last two weeks of classes requires permission of the College Board.

COURSE CHANGES

A student may enter a course without special permission, unless such permission is required, any time up to final registration at the end of the first week of classes. After the first week, a student may enter a course with the permission of the instructor up to four weeks after the beginning of classes in a semester-length course Thereafter, a student may enter a course only with the permission of the instructor and the College Board.

CLASSIFICATION OF STUDENTS

All students who have not been required to withdraw at the end of the academic year will be promoted if they have satisfactorily completed the following number of courses:

To the sophomore class 6 courses To the junior class 14 courses To the senior class 22 courses

PARTIAL PROGRAMS

Under special circumstances, students may be permitted by the Deans of Students to register for a semester program of less than three courses. These students are designated as part-time students. All students registered for less than four full courses will be required to pay a standard surcharge of \$193.75 (ten percent of tuition) which will be added to the prorated tuition charge. For example—the charge for three units would be \$1,453.11 + \$193.75 = \$1,646.86.

GUEST AND SPECIAL STUDENTS

The University provides for guest students from other colleges and universities who wish to study at Clark for one or two semesters and for special students who wish to take only a few courses without enrolling as degree candidates. Students enrolled as guest students should contact the Admissions Office. Persons interested in special student status should contact the Registrar.

PROBATION

A student whose accumulated courses at the end of one semester are less than three (or less than two and onehalf in the case of a freshman) will be reminded by the Dean that he or she is in jeopardy of being required to withdraw.

DISMISSAL

A student may be required to withdraw from the college by failing to complete successfully the following number of courses through the academic year:

Introductory Program (freshman) 5 courses Program of Advanced Studies

6 courses Students who are required to withdraw will not ordinarily be eligible for a Jonas Clark Scholarship for the first semester of their return to the University. Students who meet demonstrated need and other federal eligibility requirements may apply for available loan and job funds. The Financial Aid Office will reinstate scholarship funds after successful completion of one semester.

PLAGIARISM

In order to insure academic integrity and to safeguard students' rights, all cases of plagiarism should be reported to the College Board. Such reports of plagiarism should be carefully documented, and students accused of the infraction notified of the charge. Students found guilty of plagiarism are liable to suspension or expulsion.

LEAVES OF ABSENCE

A student who is in good standing may apply to the Deans of Students for a leave of absence, after which he or she may return to the University without formal application for readmission.

Honors and Awards

DEPARTMENTAL HONORS

A student may elect a program leading to a bachelor's degree with honors in a particular subject at the beginning of the junior year and, in some cases, at the beginning of the senior year. Under the plan, the department appoints an honors adviser who assists the student in planning a unified program of courses for the junior and/or senior years. The program may include a maximum of six courses in which the student works with a large measure of independence under the supervision of the adviser. In the senior year, the student must pass a comprehensive examination given by the department.

Students may apply in writing to their major department for permission to take honors work, not later than May 1 of the sophomore year or, in some departments, in the junior year. Department approval is



necessary for admission to such work. In exceptional cases and in certain departments, application may be made and admission approved by the department concerned as late as the first two weeks of the senior year but only with consent of the College Board.

Admission to an honors program does not relieve the student from any of the standing regulations. A student's candidacy for honors will be terminated at the end of any semester in which he or she has not maintained a standard satisfactory to the department in which the honors work is being done.

The department may recommend the student's graduation with honors, high honors, or highest honors, the recommendation to occur at the conclusion of the honors program.

GENERAL HONORS

General Course Honors are determined by the College Board annually on the basis of 8 semesters' work or its equivalent. Criteria such as grades, percentage of courses taken on P/NR and graded basis, and number of courses at Clark are used for determining the awarding of General Honors. Ordinarily 3/4 of a student's record at Clark must be graded if he or she is to be eligible for General Honors.

PHI BETA KAPPA

The Society of Phi Beta Kappa, founded at the College of William and Mary in 1776, is dedicated to the recognition and encouragement of outstanding scholarly achievement in liberal studies. The Clark Chapter, Lambda of Massachusetts, was established in 1953. Each year, a limited number of juniors and seniors are elected to membership on the basis of distinction in programs which are clearly liberal in character, with due consideration of evidence, both formal and informal, of high scholarship and creativity.

Tuition and Other Charges

SUMMARY OF TUITION AND OTHER CHARGES FIRST AND SECOND SEMESTERS ACADEMIC YEAR 1978-79

Tuition Room (Dormitory: Single \$955, Double \$835)* Board (19 meals \$920, 10 meals \$725,	\$4,350 835
5 meals \$500) (Plus 6% meals tax) Student Activity Fee—\$58 per semester	920 116
Sub-total for continuing students	\$6,221
Charges which apply to new students only:	
Contingency Deposit Orientation Fee	\$ 25 45
TOTAL	\$6,291
*Clark-owned Houses: Single \$990, Double \$890	
Other Fees	
Health and Accident Insurance (optional) Application Fee (undergraduate) Transcripts (no charge for the first one; \$1.00 a copy for requests	\$92 20
made in the senior year.)	2
Deposits	
Admission Deposit (new students) Tuition Deposit (upperclassmen) Dormitory Deposit Key Deposit—Dormitory Room	\$100 200 50 5

GENERAL INFORMATION

Key Deposit—Mailbox

Tuition, board, dormitory charges, and certain fees are due and payable prior to the beginning of each semester. These dates for 1978-79 are August 15, 1978 for Semester 1 and December 15, 1978 for Semester 2. Students are not permitted to register for any semester until all financial obligations have been satisfactorily arranged with the University.

There is a *late fee* of \$25.00 assessed against all accounts not paid in full by the August and December due dates. In addition, *interest* at the rate of 1 per cent per month (annual rate, 12 per cent) will be charged on all balances (including tuition deposit) 30 days or more past due.

REFUND POLICY

Withdrawals are arranged in the Dean of Student's Office. A student who officially withdraws in writing during the first week of any semester is allowed a refund of 80 per cent on tuition; during the second week, 60 per cent; during

the third week, 40 per cent; during the fourth week, 20 per cent; after the fourth week there is no refund. The Activities Fee is refunded by the same formula. There is no refund on other charges, except board, when a student withdraws from the University.

When a student has left, but not withdrawn from, the University on the advice of a doctor within the first four weeks of a semester, and a decision is made later that the student must withdraw, tuition refund is made retroactive to the date of the doctor's recommendation, based on the schedule described above. A detailed statement of the refund policy may be obtained in the General Office.

PROGRAM REDUCTION POLICY

A normal academic program is comprised of four courses each semester. Part-time status is allowed only with prior permission of the Dean of Students. If given permission to register for less than four units, a standard surcharge of \$217.50 (10 per cent of tuition) will be added to the prorated tuition charge. For example—the charge for three units would be \$1,631.25 + \$2,171.50 = \$1,848.75.

ORIENTATION FEE

\$45 is assessed all new students to cover food and other related costs during orientation.

CONTINGENCY DEPOSIT

All undergraduates are required to pay a \$25.00 deposit to cover minor charges, such as property damage, which may be incurred during the year. They are billed each year for whatever charges are incurred; the balance is refunded upon completion of their studies.

DORMITORY DEPOSIT

A dormitory deposit of \$50.00 is required each spring of upperclassmen to reserve a place in a dormitory. It is credited toward the dormitory charges. The deposit is *forfeited* if the student does not enroll for the specified semester.

APPLICATION FEE

A fee of \$20.00 must accompany the application for admission to the college. It is not refundable.

STUDENT ACTIVITY FEE

A fee of \$58.00 per semester, levied and administered by the Student Council, is required of all matriculated undergraduates. It pays for admission to and participation in a wide range of cultural and recreational activities.

ADMISSION DEPOSIT

A deposit of \$100.00 is required of all applicants when they accept the University's offer of admission. It is credited toward charges for the first semester. The deposit is *forfeited* if the student does not enroll for the specified semester.

TUITION DEPOSIT

A deposit of \$200.00 is required of all students planning to return to the University for their sophomore, junior, or senior years. It is payable by May 1, and is credited toward charges for the fall semester. \$100.00 of the deposit is forfeited if the student does not enroll for the specified semester.

IDENTIFICATION CARD

Identification cards are issued each year to all students without charge. This card is your official college identification and should be carried at all times. Loss should be reported immediately to the General Office. There is a \$3.00 replacement charge for lost IDs.

KEYS AND KEY SECURITY

Key Deposit: A deposit of \$5.00 for each room key issued is required, refundable upon the return of the key. A \$1.00 deposit is required for all mailbox keys, also refundable upon return of the key. The deposit is forfeited if the key is lost, or is not returned within 30 days after the close of school or departure of the student from campus.

I.D. Required: Clark I.D. cards must be shown for issuance of keys.

CLARK UNIVERSITY TUITION BUDGET PLAN

The University offers a budget plan that is designed for families who find it more satisfactory to budget college costs from monthly income as opposed to the traditional twice yearly payment system. Under this plan, annual college charges are divided into 10 consecutive monthly payments. The initial payment is due in May and the final payment will be due in February of 1979. The only fee for participation in this plan is \$30.00. This fee includes the cost of automatic life insurance coverage guaranteeing payment of the balance of the budgeted amount to Clark University in the event of the death of the insured parent. This program is administered for Clark University by Academic Management Services in Pawtucket, Rhode Island. Information regarding this plan is mailed to all students who are offered admission to the University.



ORIENTATION

Freshman and transfer students attend an orientation program held on the campus for several days before the academic year begins. The intent of this program is to assist students in registering for a program of studies and to familiarize them with the Clark and Worcester communities. Placement examinations will be given and opportunities will be provided for students to attend individual and group meetings with faculty and other students.

ACADEMIC ADVISING

At orientation and during the first year, new students are provided the opportunity to meet in groups and individually with faculty members in order to obtain advice regarding course program and related matters. Each student is assigned a faculty adviser. Toward the end of their freshman year, students are asked to indicate their preference for adviser from the major department, and advising responsibility at that point is assumed primarily by the various academic departments.

DINING HALLS

Dining Halls in Dana Commons and Jefferson Hall are operated for the convenience of students and staff of the University. Service is cafeteria style. The snack bar in Dana Commons is open to all members of the Clark community. A cafe where beer, wine and snacks are served is located in Dana Commons, and is open to members of the University community who have passed their 18th birthday.

KOSHER MEAL PLAN

A Kosher Meal Plan, organized by the Clark Chapter of Hillel, is available, at an additional charge, for students who wish to observe Kosher dietary laws. At the present time, the plan provides for noon and evening meals.

DORMITORIES

Clark University provides housing for approximately 1,100 students in both coed and single-sex dormitories and houses. Freshmen, who are generally expected to live in University housing, can choose to live in dormitories which include sophomore, junior, and senior residents or in dormitories where the majority of residents are freshmen.

Dormitory residents have opportunities to organize and participate in dormitory activities which include parties, receptions, and discussions with faculty members.

Clark University also provides housing for students of French, German, or Spanish who wish to practice their

language skills with a native of either France, Germany, or a Spanish-speaking country. Residents of the French, German, and Spanish houses also participate in various cultural activies in the house with Faculty, students, and guests of the language department.

A request to live on campus is considered binding for the full academic year. Exceptions, of course, are made if a student withdraws or takes a leave of absence.

HEALTH SERVICE

The University Health Service provides out-patient facilities for minor medical services to all students. Two nurse-practitioners, a part-time nurse and a part-time physician are in attendance. Other physicians, health specialists and hospitals are available in Worcester.

PSYCHOLOGICAL SERVICES

The Clark University Psychological Services Center offers psychodiagnostic, psychotherapeutic, and referral services to members of the Clark community.

Administratively the Center is part of the Department of Psychology and is a training agency for graduate students in clinical psychology. A significant portion of the Center's work is done by graduate students under supervision of several faculty-staff members who are clinical psychologists. There is also a part-time psychiatric consultant. A brochure describing the Center and its services may be obtained at the Center's main offices in Room 301 of Jonas Clark Hall.

OFFICE OF CAREER PLANNING AND PLACEMENT

The Office of Career Planning and Placement is a resource to which students are encouraged to turn for individual assistance in working through the relationships between undergraduate study, their personal values and goals, and their post-commencement options.

Students and alumni of the University may use the services of the Office of Career Planning and Placement which include: (1) a library of graduate and professional school catalogs and a variety of directories and program listings which are available to students in their search for desired fields of graduate/professional study; (2) extensive information about career possibilities of interest to Clark students, extending from traditional fields of endeavor to new, developing, and non-traditional career areas; (3) strong support for students in their senior "job-search" process, including directories of organizations which are potential employers in many fields, help in the process of resume-writing, and a resume-mailing service; and (4) professional help in these specific services by means of informal conversation, interest surveys, and counseling.

Physical Education and Athletics

Programs are designed to stimulate and encourage students to wider participation in physical activities, to promote health and mental efficiency, and to lead to continuing participation throughout life. Participation is voluntary.

STUDENT ACTIVITIES CENTER

Clark has a new student activities center which houses all of the male and female athletic and recreational programs. The center has a central gymnasium which has 3 full-size basketball courts, 3 volleyball courts, 3 tennis courts, 8 badminton courts, a jogging track, and a setup for gymnastics. There is a 6-lane, 25-yard pool with 1- and 3-meter diving boards. There are also 4 handball/paddle racquet courts, 2 squash courts, and areas designated for weight training, exercising, crew, and dance.

INTERCOLLEGIATE ATHLETICS

For students with a reasonably high level of skill and a well-defined and strong interest in athletic competition, intercollegiate schedules are arranged in soccer, cross-country, golf, hockey, baseball, and track for men; for men

and women, in basketball, crew, and tennis. Additional intercollegiate competition may be arranged as student interest warrants.

Clark University is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference, the New England College Athletic Conference, and numerous sports associations. Clark is an N.C.A.A. Division III school and typically competes with the following Division III, Division II, and Division I constituency: Amherst, Williams, Brandeis, Tufts, M.I.T., Bates, Bowdoin, Colby, Middlebury, Coast Guard, Assumption, Holy Cross, W.P.I., Springfield.

INTRAMURAL ATHLETICS

The opportunity to gain some of the benefits of participation in competitive athletics is offered to all students through organized intramural competition in touch football, basketball, volleyball, tennis, handball, table tennis, paddle rackets, softball, soccer, squash, golf, and a superstars tournament.

VOLUNTARY PHYSICAL EDUCATION PROGRAM

Individual and group no-credit classes are offered each semester in ballet, modern dance, gymnastics, yoga, karate, tennis, judo, weight training and conditioning, and fencing. Inquiries should be directed to the Department of Athletics.



COED RECREATIONAL ATHLETICS

Students may participate in coed and recreational leisure-time activities including archery, badminton, basketball, fencing, golf, gymnastics, horseback riding, sailing, swimming, tennis, softball, volleyball, and in several dance activities, including folk, square, and modern dance. The same activities are available to men's and women's groups. (Off-campus arrangements may be made for golf, sailing, and horseback riding.)

Admission

FRESHMAN ADMISSION

Clark University welcomes applications for admission from men and women without regard to race, creed, color, or national origin. Selection is competitive and is based primarily on academic promise as indicated by secondary school performance, recommendations, and Scholastic Aptitude Test scores. Secondarily, decisions reflect consideration of the individual experience and particular circumstances unique to each candidate.

ENTRANCE REQUIREMENTS

In general, the completion of a minimum of 16 acceptable units of credit in a four-year secondary school program or its equivalent is required for admission to the freshman class. Such preparation typically includes four years of English; two or more years of any foreign language studied; two or more years of mathematics (three or more for those planning a science or mathematics major); at least one year each of social studies and natural science (more laboratory work for those planning a science major); and other credit electives, including the arts, recognized in the secondary school curriculum.

SCHOLASTIC APTITUDE TEST

All applicants must submit by January of their final year of secondary school the results of the Scholastic Aptitude Tests as administered by the College Entrance Examination Board. Contact the Admissions Office concerning Achievement Tests.

EARLY ADMISSION

Applications from accelerating students are encouraged when supported by unqualified and enthusiastic school recommendations. Official records of all secondary schools must be submitted in every case.

EARLY DECISION

Realizing that many students do not decide on their first choice of college until well into their senior year in secondary school, Clark has established an application deadline for Early Decision candidates. Any student who submits an application and registration fee of \$20 by January 15, clearly indicating Clark as his/her first choice, will be notified by February 15. Although participation in Clark's Early Decision Plan does not preclude regular applications to other colleges, it does imply a commitment by the student to withdraw all other applications upon notification of acceptance. A deposit of \$100.00, non-refundable, is required of accepted candidates.

REGULAR ADMISSION

For freshman admission in September, candidates should initiate an application as early as possible during the first semester of the final year in secondary school, and no later than February 1. An application fee of \$20, non-refundable, must accompany each application unless a waiver is being requested.

NOTIFICATION OF ADMISSION AND DEPOSIT

Time of notification of admission to the incoming freshman class is normally on or about April 15. Students who have applied for Early Decision will be notified on or about February 15.

Upon receipt of a formal offer of admission, undergraduate candidates must indicate acceptance of the offer by making an admission deposit of \$100.00, non-refundable, to reserve a place at the University. This deposit is credited toward the first semester charges.

DEFERRED ENROLLMENT

Students wishing to elect the deferred enrollment option must submit a request in writing. The tuition deposit becomes due on April 1 of the following year for September enrollment, or by December 1 for the following January. Students seeking deferred enrollment should be prepared to submit transcripts of work completed elsewhere, if appropriate.

ADVANCED STANDING

Freshmen may enroll with advanced standing upon presentation of a transcript for college-level work already completed. Additional credit or placement may be earned on the basis of Advanced Placement Test scores of 4 and 5. Scores of 3 are awarded credit at the discretion of the department concerned.

Further information concerning testing programs may

be obtained from the student's college adviser or from the College Entrance Examination Board which may be addressed in the East at Box 592, Princeton, New Jersey 08540, and in the far West at Box 1025, Berkeley, California 94701.

ADVANCED PLACEMENT

Placement in advanced courses is determined by individual performance on special departmental placement examinations or, in some instances, on the Advanced Placement and Achievement Tests of the College Entrance Examination Board. Two course credits for certain courses completed in high school will be granted toward the bachelor's degree if a student has received a 4 or 5 on a College Entrance Examination Board Advanced Placement Test. Students who receive a 3 on an Advanced Placement Test may be granted some amount of credit only at the discretion of the appropriate academic department.

CAMPUS VISITS AND INTERVIEWS

Candidates for admission are encouraged to visit the campus and are invited to write or call the Admissions Office for detailed information concerning schedules, organized tours, appointments, and interviews. Although campus interviews are not required of applicants, we welcome the opportunity to arrange them for students wishing to visit Clark.

HOUSING ARRANGEMENTS

All single freshmen not living with their families are expected to live in University dormitories. Rooms are assigned by the Dean of Students during the summer prior to the arrival of the freshman class.

Upperclassmen usually have the option of living in dormitories or moving off campus into private apartments. A request to live on campus is considered binding for the academic year; exceptions, of course, are made if a student withdraws or takes a leave of absence. Inquiries about housing should be sent to the General Office.

TRANSFER APPLICANTS

Clark welcomes applications for admission with advanced standing from students attending two- and fouryear institutions. The majority of students admitted enter at the junior level, many do, however, transfer to Clark with sophomore and advanced freshman standing

Of special interest to transfer candidates are the University's B.A./M.A. program options in Comparative Literature, Environmental Affairs, and International Development and Social Change.

The application deadline is May 1 (December 15 for places available at mid-year).

TRANSFER REQUIREMENTS AND NOTIFICATION

All applicants for transfer are required to submit evidence of good standing, complete transcripts of all previous academic work, secondary level and beyond, including the Scholastic Aptitude Test if taken, and any other information requested by the Admissions Committee such as recommendations and course description catalogs. Decisions are announced as soon as possible depending upon completeness and scope of records.

TRANSFER CREDIT

Credit is normally given for academic courses previously taken at accredited colleges and universities and for Advanced Placement Test results as described above. Credit for courses at non-accredited institutions is granted on a provisional basis to be evaluated upon successful completion of two semesters of full-time work at Clark. No credit is given for any course completed with a grade lower than a C-minus.

Evaluation of credits for college courses completed elsewhere is made at the time of admission or upon receipt of final transcripts and is used in planning a course program and in provisional classification as a freshman, sophomore, or junior. A maximum of 50 per cent of both the Clark B.A. degree and the departmental major requirements may be accepted in transfer, and normally a minimum of two academic years at Clark is necessary for completion of degree requirements.

Undergraduate **Financial Aid**

GENERAL INFORMATION

Financial aid is allocated on the basis of financial need and academic performance. Special talent in music, art, athletics, and other areas, as well as leadership ability are also taken into consideration. However, in no case will an award exceed a student's financial need. Aid is packaged and consists of scholarships, grants, loans, and part-time employment. The Committee on Financial Aid assesses each student's financial circumstances on the basis of the Uniform Methodology utilized by most institutions and approved by the federal government. The assessment takes into account family income and assets, age of parents, financial commitments to other dependents and members of the family, and other special circumstances. It is expected by the University that a student's resources for education will come first from family and his/her own savings and earnings.

COSTS

Expenses at Clark vary from student to student, but an average student expense budget (1978-79) is as follows:

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Tuition & Fees	Resident \$4,350	Commuter \$4,350
Student Activities Fee	116	116
Orientation Fee		
(Freshmen and Transfers only)	45	45
Contingency Fee		
(Freshmen and Transfers only)	25	25
Insurance	92	92
Room and Board		
(19 Meal Plan* and Double Room)	1,810	260**
Books and Supplies - Average	200	200
Clothing, Laundry, Recreation,		
Incidentals	400	400
Travel	***	175

- *Plus 6% meals tax.
- * * Meals on campus.
- ***A reasonable allowance should be budgeted for travel between the University and the student's home.

INDEPENDENT SOURCES OF ASSISTANCE

All applicants for financial assistance are urged to pursue independent sources of financial assistance. Clark cannot replace outside funds for which a student is eligible but fails to apply. Scholarships are often awarded to graduating seniors by their high school and/or private scholarship agencies in students' local communities. Request additional information from your high school guidance office.

Residents of Massachusetts are expected to apply for a *State Scholarship*. Application is by means of a special state FAF which may be obtained from guidance counselors or financial aid offices. Out-of-state students should investigate the possibility of using their state scholarship at Clark.

An important source of federal financial assistance is offered in the form of *Basic Educational Opportunity Grants*. These grants, which vary in amount up to \$1,600 per year, are available to students who demonstrate

financial need according to federal regulations. All applicants for financial aid are required to apply for a BEOG. Students may apply for a BEOG by checking the appropriate item on the FAF.

The Guaranteed Student Loan Program is designed primarily for middle income families who do not qualify for other types of financial assistance. For those who need additional help, it may also be utilized as a resource to supplement scholarship, grant, and loan. Offered chiefly through lending institutions, this program is subsidized by federal funds. For those who qualify, the federal government will pay the 7 per cent simple annual interest while the student is in college. Loans up to \$2,500 per academic year are offered in most states. Total loans outstanding may not exceed \$7,500 for an undergraduate student. Additional information and application materials are available at local banks. Clark University is also a lender under this program and can make loans directly to qualified students who are unable to obtain a loan from a local bank. Information for entering freshmen and upperclassmen may be obtained at the Financial Aid Office.

Veteran's Benefits may be available for service veterans and children of deceased and/or disabled veterans. Eligibility can be determined by contacting your local Veterans Administration Office.

Social Security Education Benefits may be available for children whose parent(s) are deceased and/or disabled. Additional information is available at your local Social Security Administration Office.

Rehabilitation Assistance may be available for students who qualify for educational benefits. Information concerning rehabilitation services can be obtained at the State Rehabilitation Office.

Clark University Financial Assistance

Clark University makes a commitment to entering freshmen and thenceforth from year to year as long as they continue to show financial need. Although any student who enters Clark may apply for assistance as an upperclassman, guarantees are made only to those needy



students who received aid their first year.

Assistance at Clark is "packaged" in the form of scholarship, loan, grant, and employment from the following sources:

Jonas Clark Scholarships—a portion of the University income is reserved for this purpose and gifts from alumni, parents, and friends provide additional scholarship funds.

Supplemental Educational Opportunity Grants—part of a federal program of assistance to college students demonstrating exceptional financial need. Continued support of this fund is contingent upon annual congressional allocations.

National Direct Student Loans—long-term loans which bear no interest until nine months after a student ceases to be at least a half-time student at an institution of higher education. At that time, interest begins to accrue at the rate of 3 per cent on the unpaid balance. A person borrowing from this fund will repay the amount in equal installments of at least \$30 per month principal over an extended repayment schedule. Continued support is contingent upon annual congressional allocations.

Student Employment—available during the summer and part-time during the academic year. The basic source of funds for employment is the federal College Work-Study Program. Jobs, offered as part of the package of financial assistance, and placements are handled by the Financial Aid Office.

Most grants awarded by the University are designated Jonas Clark Scholarships. Funds for these scholarships are derived from University income and from endowed funds as follows: Because of the various restrictions placed on these funds, it is the policy of the University to select eligible recipients. Students should not apply directly.

The Reginald Bryant Allen Fund The Alumni Group Scholarship

The B'nai B'rith Scholarship

The Gertrude and William Brodie Award

The Reina and Isidore Chaiklin Scholarship Fund

The Charles W. and Annie L. Bruninghaus Fund

The Clark University Faculty Women's Club Scholarships

The Theodore T. and Mary E. Ellis Fund

The Albert C. Erickson Scholarship The A.D. Ross Fraser Scholarship

The Aaron Fuchs Memorial Scholarship Fund

The Paul S. Goldman Memorial Scholarship

The Bertram L. and Bessie T. Handleman Fund

The Frank H. Hankins Scholarship

The High School Basketball Tournament Scholarship

The Lennard A. Hill ('57) Memorial Scholarship Fund

The Gertrude and Eva Hillman Scholarship

The Frances Tufts Hoar Fund

The Gordon A. Hubley Fund

The M. Hazel Hughes Scholarship

The George N. Jeppson Scholarship Fund

The Dr. Edmund Randolph Laine Scholarship Fund

The David Ashley Leavitt Memorial Scholarship Fund

The Levi Knowlton Fund

The Elizabeth T. Little Scholarship Fund for Women

The Homer Payson Little Scholarship in Geology

The Livermore and Ambulance Drivers Scholarship

The Robert H. Loomis Scholarship

The National Council of Jewish Women Scholarship
The Alice Friend Newton Memorial Scholarship

The Abraham Persky Scholarship Fund

The Charles B. Randolph Fund

The Helen Brewster Randolph Memorial Scholarship

The Jennie L. Richardson Scholarship

The William Richardson Scholarship

The Elliott Stephan Sahagian ('67) Scholarship Fund

The Sanford Memorial Scholarship

The Samuel Schanberg Memorial Scholarship Fund

The Fredric T. Sewall Scholarship Fund

The Henry L. Signor Scholarship

The Russell S. Thompson ('18) Scholarship Fund

The Benjamin R. and Grace F. Vandeford Student Aid Fund

The Whitman Scholarship

The Henry A. Willis Scholarship

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Financial Aid Form (FAF) to the College Scholarship Service by February 15, and direct that a copy be forwarded to Clark University. The Financial Aid Form may be obtained from the secondary school guidance office. Offers of financial assistance will be made simultaneously with, but independent of, the decision of the Admissions Committee. All recipients are required to verify the information reported on the FAF by filing a copy of their parents' 1978 federal income tax return. Early Decision candidates should file an Early FAF by November 1. The form may be obtained from the Admissions Office.

Prospective transfer students who are requesting financial assistance should submit the Financial Aid Form to the College Scholarship Service at the same time application is made for admission. Transfer students must also submit a photo copy of their parents' 1978 federal income tax return to the Financial Aid Office before an aid decision can be made. Award notification will be made concurrent with acceptance to the University, if possible; FAF processing takes approximately four weeks. Applicants will not be required to post an admission deposit before receiving a financial aid decision.

Upperclassmen must reapply annually for financial assistance by submitting an updated FAF to the College Scholarship Service by March 1. In addition, a copy of the parents' previous year's income tax form (Form 1040) must be filed with the Financial Aid Office by April 15. Assistance is renewed as long as the applicant continues to demonstrate financial need.

Any student interested in financial assistance should request a copy of the Clark University Financial Aid Brochure from the Admissions Office. The brochure contains all pertinent financial aid information including policies and procedures and the rights and responsibilities of aid applicants.



GENERAL INFORMATION

Clark University was established in 1887 as the second graduate institution in America. Its faculty and graduates have endowed the University with an impressive record of accomplishments through the years. Under the administration of the Graduate Board, Clark offers programs leading to master's and doctor's degrees to qualified holders of a bachelor's degree or its equivalent of attainment.

Master of Arts degrees are offered in the fields of biology, biomedical engineering (in cooperation with Worcester Polytechnic Institute), chemical-physics, chemistry, comparative literature, criminal justice, economics, education, English, environmental affairs, geography, government, history, international development, mathematics, physics and psychology. The Master of Business Administration degree is offered by the Department of Management. In addition, Clark offers a Master of Business Administration degree in Management, a Master of Public Service degree in public administration and public health, and a Master of Liberal Arts degree.

Doctor of Philosophy degrees are offered in biology, the biomedical sciences (in cooperation with the Worcester Foundation for Experimental Biology and Worcester Polytechnic Institute), chemistry, chemical-physics, economics, geography, history, mathematics, physics, and psychology. A Doctor of Education degree is offered by the Department of Education. Post-doctoral training is conducted in geography, psychology, and the sciences.

Departments which do not at present accept candidates for graduate degrees may offer courses which are suitable for inclusion in a program of graduate study.

Scholarships, fellowships, and assistantships are listed at the end of this section. Additional information concerning departments and their offerings will be found in the section entitled "Departments and Courses."

INQUIRIES

Inquiries by students in American institutions concerning specific programs of graduate and post-doctoral work should be addressed to the chairman of the department concerned or to the relevant director of program. Please check catalog section, *Departments and Courses*, for names of department chairmen and program directors. Inquiries by foreign students should be addressed to the Dean of the Graduate School.

ADMISSION TO THE GRADUATE SCHOOL

Admission to the Graduate School may be granted only by the Dean of the Graduate School acting for the Graduate Board on the recommendation of a department or program of the University. An official letter from the Graduate Dean is the formal notification procedure.

Admission to the school does not imply admission to candidacy for a degree.

Application: A prospective applicant from an American institution should communicate with the appropriate department or program head. If encouraged to make an application, the applicant will be provided with an application form which, accompanied by a \$20 application fee, should be returned to the department or program. In addition, the applicant should arrange the forwarding of an official transcript of all undergraduate and any subsequent academic work, and three letters of recommendation from persons who are competent to judge qualifications for graduate study.

Department or program heads may request the submission of additional material, and most require a record of attainment in the Graduate Record Examination given by the Educational Testing Service, Princeton, New Jersey. All applicants are urged to take, and to submit the results of, the Graduate Record Examination verbal, quantitative, and advanced tests.

A foreign student, if encouraged by the dean to make formal application, should provide a certified English translation of his or her official record (if not in English), evidence of English proficiency (TOEFL), at least two letters of recommendation, and a statement concerning the applicant's financial resources or agency support.

Applications both for admission and for financial aid should be completed not later than February 15 if the applicant intends to begin studies the following September. Applications for admission may be submitted, however, through the year. Students applying for financial aid are required to fill out a Financial Aid Form before awards are made.

Application for admission as a *special status graduate student* (not in a degree program) should be made through the Registrar's Office.

Admission: Admission to the Graduate School is granted for entry only at a specified time and lapses if the student fails to enter at that time. Admission as a part-time graduate student may be granted to qualified applicants who cannot devote full time to study, upon recommendation of the department or program head.

If a student, when admitted, was a candidate for a degree elsewhere, he or she must arrange upon receipt of that degree to have a supplementary transcript, including a notation of the degree conferred, sent directly to the Dean of the Graduate School.

MASTER OF ARTS

Residence: An academic year (8 semester courses) of study in residence is a minimum requirement for a master's degree. Individual departments or programs may require longer periods of residency. Residence study is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

Foreign Language: Language or other special

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requirements are included in the department announcements in this catalog.

Candidacy: Application for admission to candidacy for a master's degree must be filed with the Dean of the Graduate School not later than the first week of the last full semester which the student expects to spend in residence as a candidate for a degree. Forms are obtainable at the Registrar's Office.

Applications will be considered by the Graduate Board when the student has completed one semester of full-time graduate work or its equivalent in residence at the University and obtained the written endorsement of the major department or program.

Candidacy for the degree of Master of Arts is valid for four years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years on vote of the Graduate Board.

Course and Examination Requirements: Each student must complete at least eight semester courses in a program approved by the department. One course may be a research course devoted to the preparation of the thesis. Credit for a maximum of two courses at another institution may be approved by the Dean of the Graduate School upon recommendation of the department.

Each candidate must pass such written examinations as required by the major department and a final oral examination by a committee of three or more, one of whom must be a member of the Graduate Board.

Thesis: The thesis is written on a topic in the field of the student's special interest under the supervision of a member of the department and in a style, length, and format that is appropriate to the problem being researched. The ribbon copy of the thesis, a precis approved by the supervising instructor, and an academic history must be deposited in the Registrar's Office not later than three weeks before the date of the commencement at which the degree is to be conferred. At least one additional copy of the thesis and the precis must be delivered to the major department, which may require more than one copy. The precis may not exceed 75 words in length. The title page, precis, and academic history forms are obtainable from the Registrar's Office. The ribbon copy of the thesis must be typed as prescribed in "The Master's Thesis." These instructions are available at the Registrar's Office.

The thesis is deposited by the Registrar in the University library. The precis is printed in an annual publication, *Dissertations and Theses.*

Diploma Fee: This fee for the Master of Arts degree is \$25.00. It covers the cost of the diploma, publication of the precis in the booklet Dissertations and Theses, and binding of the library copy. It is payable when the thesis is deposited with the Registrar. Students who do not write a thesis, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Alternative Program: A candidate for the degree of Master of Arts may be recommended for the degree without a thesis after passing the preliminary doctoral examination.

Non-Resident Students: Continuing students who are not in residence at Clark are required to pay a non-resident fee of \$100.00 per semester.

MASTER OF ARTS IN EDUCATION

The residency, candidacy, course, examination, and diploma fee requirements are the same as those listed for the degree of Master of Arts.

Thesis: Students may choose one of three options, subject to the approval of the Department of Education. They may choose to: (1) prepare a thesis as required for the M.A. degree; (2) elect two additional subject-matter courses; or (3) elect a research seminar in which papers are prepared and presented to fellow students and staff.

Further information concerning the degree of Master of Arts in Education may be found in the catalog section, "Departments and Courses," listed under the Department of Education.

MASTER OF ARTS IN CRIMINAL JUSTICE

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF BUSINESS ADMINISTRATION

This degree is offered through the Department of Management. For further information, see the catalog section "Departments and Courses," listed under the Department of Management.

MASTER OF LIBERAL ARTS

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF PUBLIC SERVICE IN PUBLIC HEALTH

This degree is offered in public health. For further information, request a catalog from the College of Professional and Continuing Education, Clark University.

MASTER OF PUBLIC ADMINISTRATION

Enquiries should be directed to the C.O.P.A.C.E. office.

DOCTOR OF EDUCATION

The program leading to the Doctor of Education emphasizes human development and learning as it relates to curriculum, instruction, and evaluation, and in the sociology of education. The requirements for this degree closely parallel those for the degree of Doctor of

Philosophy (see below). See catalog section on Department of Education for further information.

DOCTOR OF PHILOSOPHY

Only well-qualified candidates with proven ability in their special fields of study will be encouraged to proceed to the degree of Doctor of Philosophy.

Residence: The minimum requirement is one year of full-time study (8 semester courses beyond the M.A.), or its equivalent in part-time work, in residence.

If the degree of Master of Arts has been earned at Clark, this requirement is in addition to the residence requirement for that degree.

Foreign Language: Each graduate department sets its own language or related requirements as the student's field of research may demand, and must report such requirements in each case to the Dean of the Graduate School. If a language is required, either the Educational Testing Service Foreign Language Tests or on-campus testing are employed at the discretion of the department.

Preliminary Examination: Upon completion of preparation in the fields of study, a prospective candidate takes a preliminary examination set by the major department. This examination may be written or oral, or a combination of both. The chairman of the department may invite other scholars from within or without the University to participate in the examination.

Candidacy: An application for admission to candidacy should be filed when the applicant has: (1) completed two full academic years of graduate work, or its equivalent in part-time work, including one year at Clark University; (2) completed the departmental requirements in a foreign language; (3) passed a preliminary examination in the chosen field of study; (4) obtained the written endorsement of the major department. Application forms are obtainable at the Registrar's Office.

Candidacy for the degree of Doctor of Philosophy is valid for three years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years by vote of the Graduate Board.

Dissertation: A dissertation, which is expected to make an original contribution to a special field of knowledge, is required of each candidate. The dissertation, approved by the chief instructor or dissertation committee, is laid before the examining committee at the final oral examination.

An abstract of the dissertation, not exceeding 600 words in length, and a precis, not exceeding 75 words, both approved by the instructor or committees under whom they were written, are also required.

Four weeks before the degree is to be conferred, the ribbon copy of the dissertation, together with two official title pages, an academic history, the ribbon copy of the abstract and of the precis, each in a form prescribed, must be delivered to the Registrar. At the same time, one or more copies of the dissertation and of the abstract may be required by the major department. The title pages, precis,

and academic history forms are obtainable at the Registrar's Office. The ribbon copy of the dissertation must be typed as prescribed in "The Doctoral Dissertation" and "Suggestions for the Preparation of Doctoral Dissertations for Microfilming." These instructions are available at the Registrar's Office.

The Registrar deposits the dissertation and the abstract in the University library where they remain permanently. A microfilm copy of each dissertation is made by University Microfilms, Inc., of Ann Arbor, Mich., and is available for duplication by them on request. The abstract is printed in *Dissertation Abstracts*; the precis is printed in an annual publication, *Dissertations and Theses*.

Articles published in refereed journals may be accepted in lieu of a dissertation.

Final Examination: The final examination is oral and lasts for at least two hours. Additional written examinations may be given if the major department so directs. The candidate is expected to defend the dissertation and, at the discretion of the examining committee, may be questioned on the entire special field of study. The oral examination is conducted by a committee of at least four members, composed of at least one member of the Graduate Board and such members of the department and non-members from within or without the University as the chairman may appoint. The chairman notifies the Dean of the Graduate School, at least one week in advance, of the time and place of the examination and the composition of the committee. The Dean is authorized to invite any person from within or without the University to be present and to assist in the examination.

Diploma Fee: This fee for the Doctor of Philosophy degree is \$85.00. It covers the cost of the diploma, hood, publication of the precis in the publication Dissertations and Theses, publication of the abstract in Dissertation Abstracts, and binding of the library copy of the dissertation. It is payable when the dissertation is deposited with the Registrar.

Non-Resident Students: Continuing students who are not in residence at Clark are required to pay a non-resident fee of \$100.00 per semester.

POST-DOCTORAL STUDY

Post-doctoral students are classified in three categories: *Honorary Fellows* who are visitors for varying lengths of time, always more than a few days, who wish to observe activities of a department, to study or to carry on research, but without formal teaching duties or support by the University; *Research Associates* who work full-time with designated members of the University staff on research projects, normally supported by grants, without formal teaching duties but with some responsibility for directing laboratory assistants; and *Trainees* who enroll in a formally offered post-doctoral training program.

The Honorary Fellow and Research Associates enjoy faculty status, although the extent to which faculty privileges may be granted may be restricted by availability of space and other resources.

GRADUATE SCHOLARSHIPS, FELLOWSHIPS AND ASSISTANTSHIPS

Graduate fellowships and scholarships are provided for well-qualified graduate students by the University from endowed funds and from other sources. Financial aid to graduate students is available also in the form of grants from a number of special funds, and in some departments, from sponsored research grants. A limited amount of parttime employment is available in the various offices and departments of the University. Students who receive awards must obtain permission from the department before accepting employment.

All applicants for admission who request financial assistance are required to file a Student Financial Statement with the College Scholarship Service as part of their application. This form, along with specific instructions, should be requested by contacting the applicant's prospective department or program. Financial aid is not necessarily based on an evaluation of the student's need. However, a portion of the assistance offered may be in the form of National Direct Student Loans or College Work-Study employment. Both of these federal programs require that a student demonstrate financial need by completing the Student Financial Statement.

APPLICATION

Application for a scholarship or fellowship to begin in September should be made before February 15 to the chairman of the department or director of the program in which the applicant expects to do major work. Late applications, after endorsement by the department, go to the Dean of the Graduate School for final approval.

RESEARCH FELLOWSHIPS

These fellowships may be awarded to graduate students who have fulfilled their residence requirements and who are pursuing a full-time doctoral program on campus.

TEACHING ASSISTANTSHIPS

There are three categories for Teaching Assistantship appointments:

1. Part-time Lecturer—a non-probationary, part-time faculty position which does not lead to consideration for tenure or faculty fringe benefits (TIAA, vacation, etc.). The student is responsible for a small class and should have considerable independence over all aspects of teaching and grading. The student will be under the general supervision and direction of a senior faculty member.

This category is reserved for the advanced student who has manifested, clearly, skill in teaching and is qualified and experienced in the subject to be taught. The student should be accorded as many faculty privileges as possible, e.g., attending department meetings and having

office space. Stipend for this position is \$3,200-\$3,600 for eight months.

2. Teaching apprentice—students with prior teaching experience, either as an undergraduate or as a graduate assistant. Responsibilities include conducting discussion sections for a course, supervising laboratory sections, running tutorial sessions, grading papers and projects, and discussing these with the undergraduate students.

The student in this category should be under the direction of a professor who would assume responsibility for the student's training as a teacher. Stipend for this category is \$3,000-\$3,200 for nine months.

3. Teaching Assistant—students with little or no teaching experience. Responsibilities include tasks that allow them to observe experienced teaching assistants or instructors and learn their pedagogical methods. Duties are assigned on a job basis and may include assisting other senior TAs, setting up and tearing down laboratory equipment and doing a variety of other tasks associated with teaching a course or section.

The assistant may grade examinations only if a part of a general grading team of assistants or under the direct supervision of a senior TA or instructor. Stipend for this category is \$2,800-\$3,200 for nine months.

The time commitment for each category is approximately half-time. Tuition will be remitted on all three categories. The number of hours of study an assistant at any level takes in addition to teaching responsibilities should be decided by the department chairman with overall supervision from the Dean of the Graduate School. The Internal Revenue ruling which states that payment for teaching is non-taxable provided it is a requirement for an advanced degree is still in effect, though with some detailed provisions. We have been informed that some cases at other schools have been questioned. If a student chooses to have tax withheld, he or she is usually entitled to a tax refund when filing with the Internal Revenue Service.

Note that the departments of Biology, Chemistry, Economics, Geography, Government, History, Mathematics, Physics, and Psychology require teaching experience for graduate degrees. See the departmental announcements in the catalog section on "Departments and Courses."

ASSISTANTSHIPS

In several departments, assistantships are available. They involve a variety of services including research with stipends to correspond, and usually provide the student with experience which will be useful in later professional work.

GRADUATE FELLOWSHIP AND SCHOLARSHIP FUNDS

Stipends for fellowships and scholarships are provided by:

The Alumni Association Fund, provided by alumni who

hold the degree of Doctor of Philosophy to benefit students studying for that degree.

The George S. Barton Fund, a bequest from the Honorable George S. Barton of Worcester, to be used for the benefit of native-born citizens of Worcester.

The Elnora W. Curtis Fund, a beguest from Dr. Elnora W. Curtis (A.M. 1908, Ph.D. 1910) for the benefit of graduate students.

The Eliza D. Dodge Fund, to be granted to graduate students of limited means who are engaged in research

The Henry Donaldson Jordan Award in History, for high standard of scholastic achievement, and qualities of character which will be valuable in the training of teachers.

The Joseph F. Donnelly Memorial Fund, a bequest from Lucretia F. Donnelly to help men who are enrolled in a course leading to the degree of Doctor of Philosophy.

The John White Field Fund, established by Mrs. Eliza W. Field to provide for the minor needs of a scholar or fellow.

The Austin S. Garver Fund, a bequest from Austin S. Garver, member of the Board of Trustees from 1908 to 1918.

Graduate School Scholarship Fund, a bequest from Alexander H. Bullock, a member of the Board of Trustees from 1926 to 1946, and president of the Board from 1938 to 1946.

The George Frisbie Hoar Fund, the gift of Andrew Carnegie in honor of the second president of the University's Board of Trustees.

The Myers Fund, a gift of George E. Myers (Ph.D., 1906) to assist graduate students to do research in education and psychology.

The David J. Ott Scholarship, the scholarship designed to support a qualified student towards the Ph.D. degree in economics. The successful candidate is assured support (tuition plus stipend) for three years at Clark.

The Charles H. Thurber Fund, provided by Charles H. Thurber, member of the Board of Trustees from 1913 to 1938, and president of the Board from 1919 to 1937.

GRADUATE LOANS

Loans, bearing interest at three per cent per year after completion of residency, are available on a limited basis for full-time graduate students upon registration. Applications are available at the Graduate School Office.

Federal funds are available for graduate students at Clark University in the form of National Direct Student Loans. The maximum amount a student may borrow in any one academic year is \$2,500. The total amount a student may borrow as an undergraduate and graduate is \$10,000.

The National Direct Student Loan Program provides funds for long-term loans which bear no interest until a student has completed full-time study. Normally a person borrowing from these funds will repay the amount over a period of ten years. National Direct Student Loans are granted on the basis of financial need and available funds. All National Direct Student Loan commitments are made contingent on Congressional appropriation of funds annually for this program.

Contact Barbara Tornow, Director of Financial Aid, for further information on the National Direct Student Loan Program.

LOAN FUNDS

The Mary S. Rogers Scholarship and Loan Fund, established in 1926 for the benefit of students in the graduate school.

The Mary M. Thurber Fund, established by the late Dr. Charles L. Thurber, former president of the University Board of Trustees, as a memorial to his mother.

The United States Steel Foundation Fund, established primarily for American citizens studying in the areas of psychology, geography, economics, biology and chemistry. chemistry.

For loans from these and other sources that may become available, application should be made at the Graduate School Office.

DEPARTMENTAL FUNDS

The Wallace W. Atwood Research Fund. The income of this fund may be used at the discretion of the staff in the Graduate School of Geography for the promotion of field studies in geography by any member of the staff, or any one of the alumni holding a graduate degree from the Graduate School of Geography, or for the publication of results of such research work.

The Chester Bland Fund. The income of this fund is preferably used to provide aid to a promising student, either in residence or engaged in research elsewhere under the direction of the Department of History. It may also be used to defray the expense of visiting lecturers or of departmental research.

The Wallace W. Greenwood Fund. The income only is to be divided between the Departments of Physics and Chemistry and to be used for any purpose within the scope of these two departments.

The Morton L. "Sonny" Lavine Foundation is a memorial to Lieutenant Lavine of the United States Army, World War II. The income is to be used for the promotion of research in the Department of History.

The Libbey Fund, bequeathed to the University by Mary E. Libbey, is to establish a fellowship in physical geography and to aid the department in that field.

HOUSING AND BOARD

Off-campus rooms and apartments for both men and women are available in the immediate area of the University and University accommodations may be available. For information concerning off-campus

accommodation, contact directly the Office of Buildings and Grounds, which keeps a bulletin board of available off-campus rooms and apartments. For on-campus accommodation, contact the Office of the Dean of Students. The Graduate School Office will also be glad to assist students in finding housing. Students should plan to arrive a few days before registration in order to arrange for housing because of the limited number of suitable off-campus apartments in the immediate area.

Graduate students are invited to take their board in the University dining halls under one of the food plans available. They will also find the Snack Bar available for single meals.

HEALTH SERVICE AND INSURANCE

A low-cost insurance plan covering ordinary medical expenses and limited maternity benefit for married students is available through the University. Unless a student is protected by similar insurance, he/she must enroll in this plan, since all graduate students must be covered by Health and Accident Insurance. Students are not automatically covered by this insurance but must apply for it through the Graduate School Office where applications are available. Blue Cross-Blue Shiled will be offered as an alternate insurance plan.

Graduate students are entitled to use of the University Health Service for minor first-aid needs.

Graduate Tuition and Other Charges

GENERAL INFORMATION

Tuition and non-resident fees are due and payable within 30 days of date of issuance of invoice. Accounts 30 days or more past due are assessed interest at the rate of one per cent per month (annual rate 12 per cent). Identification cards are provided each year of residence. A late registration fee of \$25.00 is charged if registration is not completed by the end of the first week of the semester. Candidates who are not in residence must pay the non-resident fee until the requirements for the degree are fulfilled; non-payment will automatically terminate candidacy.

SCHEDULE OF TUITION AND OTHER CHARGES

Tuition—full program, \$2,175.00 per semester. If less than a full program, the student will be charged according to the fraction of a program indicated on the registration card by the chairman of the department.

Tuition for Special Graduate Students—\$543.75 per course.

Other Fees—payable at registration:	
Health Fee (optional)	\$ 65.00
Health and Accident Insurance (mandatory)	
Single Students	\$ 92.00
Married Student and Spouse	\$218.00
Family Plan	\$278.00
Diploma Fee—payable at the time the thesis or	

\$25.00

\$85.00

\$85.00

dissertation is deposited with the Registrar.**

Master's Degrees

Doctor of Philosophy Degrees

Doctor of Education Degress

**Students who do not write a thesis or dissertation, including those receiving the degree through the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Non-Resident Candidate Fees—payable on November 1 and March 1. If the thesis or dissertation is deposited with the Registrar before either date, no fee is charged for the semester. The fees double upon renewal of candidacy.

Master's Candidates \$100.00

Doctoral Candidates \$100.00

(For the Master of Business Administration tuition and fees, write to *The Clark M.B.A. Program*, Department of Management, Clark University.)

(For the Master of Arts in Criminal Justice, Master of Public Administration, Master of Liberal Arts, and Master of Public Health tuition and fees, request a catalog from the College of Professional and Continuing Education, Clark University.)

REFUND

A student who officially withdraws in writing during the first two weeks of any semester is allowed a refund of 60 per cent on tuition; during the third week, 40 per cent; during the fourth week, 20 per cent; after the fourth week there is no refund. There is no refund on other charges, except board, when a student withdraws from the University.

The College of Professional and Continuing Education

The College of Professional and Continuing Education is the division of Clark University responsible for academic offerings taken by people enrolling in the University on a part-time basis in order to continue their education or

upgrade their professional credentials. COPACE courses. conducted at times convenient to continuing education students, may be taken alone for personal enrichment or as part of a program leading to an undergraduate or graduate degree.

DEGREE PROGRAMS

Undergraduate programs are given leading to the following degrees:

Bachelor of Science in General Studies Bachelor of Science in Business Administration For further information, write to Dean, COPACE, Clark University, for catalog on undergraduate programs.

Graduate programs are given leading to the following degrees: (Catalog available in the COPACE Office)

- Master of Arts in Liberal Arts.
- *Master of Arts in Criminal Justice.
- *Master of Public Administration.
- *Master of Public Service in Public Health.
- *(These are part-time programs open only to practitioners actively involved in the professional fields.)

ADMISSION POLICY

Admission to COPACE courses and programs is open to Clark University students and to members of the Worcester community. Candidates applying for a degree program are required to submit records of their previous schooling. Clark undergraduates are normally restricted to six COPACE courses for their undergraduate careers. Inquiries concerning this matter should be directed to the Dean of the College.

The Summer School

SUMMER STUDY

Intensive instruction in numerous fields of study is offered in the summer program. A variety of courses is offered for undergraduates, graduate students, and teachers. A student may register for up to a maximum of 3.0 units of credit each summer, by attending both sessions. Evening courses are also available during the summer to all students to continue their education while engaged in daytime employment.

DEGREES AND CREDIT

All courses offered in the Summer School are accepted at Clark for credit toward bachelor's degrees



unless they are specifically limited in the description of the course. Some courses may count toward the degrees of Master of Arts, Master of Arts in Education, and Doctor of Philosophy. However, approval for such courses should be obtained in advance from the student's major department.

Graduate students formally registered in the Summer School may, with the approval of their major department, enroll in thesis courses under the direction of regular members of the staff.

SUMMER SCHOOL CATALOG

Detailed information concerning the Summer School is contained in a Summer School catalog which may be requested from the COPACE Office.

SUMMER SCHOOL CREDIT OTHER THAN CLARK'S

Credit toward a degree for study at a summer school other than the Clark Summer School must be approved by the Registrar no later than registration day of the following semester. Students are strongly advised to confer with the Registrar prior to taking summer school courses to assure acceptability of credit toward the Clark degree.

Integrated Undergraduate-Graduate Programs

In the fall of 1973, Clark University inaugurated a new departure in higher education with the creation of a number of programs which bridge undergraduate and graduate education. Noting the changes in graduate education and projected manpower needs in the United States, the University established a new set of program options for advanced undergraduate students. Each program normally covers a three-year span, beginning in the junior year and leading directly to an M.A. degree. The B.A. degree is awarded en route to the M.A. degree. The integration of undergraduate and graduate work usually accelerates student progress to an advanced degree. Each degree program has a strong career orientation, providing the student with the knowledge and skills to enter a profession directly or to continue on in a Ph.D. program elsewhere. Each program also emphasizes interdisciplinary education based upon a common core of course work and opportunity for individual professional interests. Formal application and admission to the program is required, and both Clark and transfer students are encouraged to apply. Transfer students interested in making application to the program should direct inquiries to the Admissions Office.

The University has approved programs of this type in comparative literature, environmental affairs, and international development. The program in comparative literature centers on a problem-oriented approach to literature and theater. Students will, in consultation with an advisory committee, formulate an individualized program of study which will stress interdisciplinary perspectives around a particular problem or theme. The program in environmental affairs trains professionals for carrying out a particular set of functions (technical, administrative, research, evaluative, planning, and teaching) that relate to the understanding and management of environmental affairs. The program in international development trains planners, managers, organizers, and educators in international development.

Eventually, other integrated undergraduate-graduate programs will be added until a network of such programs is available as a new set of options in the university-college.

Interdepartmental program descriptions are included alphabetically with department and course listings.

Preprofessional Programs

While Clark does not offer majors in professional fields at the undergraduate level in the day college, there are a variety of offerings of interest to students who plan

professional careers. The following sections briefly describe the courses and major offerings at Clark appropriate to preparation for careers in a number of areas.

BACHELOR OF FINE ARTS

The Bachelor of Fine Arts degree is designed for the student with a strong interest in and commitment to the visual arts as a career. Admission to the B.F.A. program is highly selective and it is expected that the student will maintain a high level of professional practice in his or her courses. Periodic reviews of student work will be held to determine continuation in the program.

There is opportunity for independent studio study, special projects in visual art, and self-designed programs. Students may concentrate in film/video as part of the studio major, and those interested in elementary or secondary teaching or art therapy may participate in the Department of Education's internship program as preparation for certification.

Studio and art history courses are available to non-majors and to students with combined or self-designed majors. Certain courses at the Worcester Craft Center are also available to non-majors.

Exhibitions of contemporary art and the work of Clark students are presented throughout the year in the Little Gallery, and advanced students may exhibit in the Goddard Library. The on-campus Craft Studio and the Art Association, a student organization open to all interested persons, offer opportunities for extra-curricular involvement in art and craft activities.

CRIMINAL JUSTICE

Through its College of Professional and Continuing Education, Clark University offers a program leading to the attainment of a Master of Public Service degree. For undergraduate students interested in criminal justice as a discipline or as a career, the University offers over 20 courses that are relevant to the professional field. Examples from the list of relevant courses include: Government 222., Seminar: Public Policies and American Cities; History 223., Proseminar: American Constitutional and Legal History; Psychology 162., Psychoanalytic Interpretation of Behavior; Sociology 263., Deviance; Sociology 264., Juvenile Delinquency. For further information or counselling on the feasibility of designing a program in criminal justice, write to Director, Criminal Justice Program, Clark University.

EDUCATION

For information about Clark's preprofessional program in Education, please see the departmental section.

LAW

Students interested in a prelaw program are advised to plan a broadly-based academic program which is liberal in character and which has adequate samplings drawn from the natural and physical sciences, social sciences. and humanities. While there is no specific major or constellation of courses which are recommended for all prelaw students, it is important that the courses selected lead toward the development of certain skills, among which are: (1) Communication and articulation skills: courses in composition, creative writing, as well as courses in history, philosophy, government, and other social sciences and humanities in which the ability to read and write well is stressed; (2) Quantitative analysis and graphical presentation: courses in mathematics, computer science, and certain courses in economics and geography which help develop the ability to compile, understand, and interpret data and to present and analyze it in graphical form; (3) Logic: the study of law requires the systematic analysis of propositions and of the conclusions that can be drawn from them. Thus, all courses which provide training in this skill, such as those in philosophy (logic), mathematics, and some of the natural and social sciences are highly desirable; (4) Critical understanding: courses in ethics (philosophy), history, sociology, and other social sciences which promote understanding of human institutions and values are recommended.

In general, the records of students applying to law schools will be evaluated according to several criteria,

among which are: (1) the overall quality of grades, (2) the breadth and distribution of courses, and (3) evidence of advanced learning and scholarship.

Students who are interested in prelaw are urged to consult their faculty advisers, the members of the Prelaw Advisory Board, and the prelaw *Handbook* which is available in the Office of Career Planning and Placement.

MANAGEMENT

Students interested in a career in business in particular or in management, in general, whether it be management in a profit or non-profit organization (government, health care delivery system, religious institution, etc.) should consider taking one or more undergraduate courses in management as electives or as part of an expanded major in some other related field.

While most managers were originally trained in a particular discipline, they generally find managerial competence requires skills far beyond their primary educational field. Since effective management requires competence in human relations, communication, leadership, and quantitative analysis, it is recommended that students take a cross-section of management courses and otherwise concentrate on selections from the undergraduate liberal arts program that provide an understanding of (1) human relations and leadership: courses in psychology, sociology, anthropology, philosophy, government and international relations, and



other offerings which stress the understanding of human behavior in a social context; (2) quantitative analysis: courses in economics, mathematics, computer science, and other selections which emphasize quantitative understanding and competence in data analysis; (3) communication and articulation skills: courses in composition, creative writing, and others which provide development of the abilities to read, write, and express oneself orally.

Given all of the above, Clark does not offer an undergraduate major in Management. However, course work in the four broad areas outlined above will be beneficial to any potential manager. For a student desiring a more formalized program leading toward a graduate Master of Business Administration (MBA) degree, the Department of Management offers an undergraduate option in management which may lead to a BA degree in the student's major field and an MBA within a five-year period.

Students interested in taking either selected courses or the more formalized BA/MBA program should consult their faculty adviser and a member of the Department of Management (see the Management section of this catalog for additional information on the Five-Year BA/MBA Management Degree Program).

MEDICINE AND DENTISTRY

Students who are interested in premedical or predental programs major in any of the sciences, social sciences, or humanities, but must complete-normally before the junior year—at least the minimum requirements for admission to medical and dental schools: one year of general chemistry; one year of general biology; one year of organic chemistry; one year of physics; one year of English. Calculus is also strongly recommended or required by many medical and dental schools. While there is considerable variation, some medical and dental schools encourage students to take courses in quantitative analysis, physical chemistry, and advanced biology. Proficiency in quantitative reasoning should be developed, and courses in mathematics, and in the sciences, as well as many social-science courses are helpful toward that end. Although students are encouraged to take more than the minimum number of science courses required for admisstion to medical/dental schools, they are also urged to build breadth into their programs and to demonstrate their ability to handle successfully work in advanced courses. In selecting their courses and planning their programs, students are urged to consult their faculty adviser, members of the Premedical/Predental Advisory Committee, and the Handbook compiled by the Committee. Copies of the Handbook and other materials pertaining to premedical, predental, and other health-service education are available in the Office of Career Planning and Placement.

Facilities

LIBRARY

The Robert Hutchings Goddard Library contains over 350,000 volumes. The major part of the collection is centrally housed, and an open-shelf system fosters free access to books and periodicals. Chemistry periodicals are available for reference at the Kraus Library in Jeppson Laboratory, and an extensive map library is housed in the Geography Building.

The collection reflects the history and growth of the University. The combined scholar's library of the early graduate school and the undergraduate library of Clark College have been developed through the years to serve the academic needs of the University. The richest holdings are in the fields in which graduate work has been offered for some years—biology, chemistry, economics, education, geography, government, history, international relations, mathematics, physics and psychology. More characteristically undergraduate in content are the collections dealing with music, fine arts, language, literature, religion, philosophy, and sociology. The Library pays particular attention to major bibliographical and reference tools, and annually receives over 1,900 periodicals. The acquisition and exchange of material is coordinated with other libraries in the Worcester area, and the Worcester Area Cooperating Libraries maintain a shuttle service to facilitate interlibrary borrowing.

The Robert Hutchings Goddard Library provides unusually fine quarters for the utilization of these collections. Completed early in 1969, the building has a potential capacity of 600,000 volumes and accommodations for 1,000 readers, including hundreds of individual study desks. Among its features are the Goddard collection and exhibit area; the Wilson Rare Book Room; University archives; special facilities for art books, record listening, and microtext reading; student and faculty lounges; and an after-hours reading room.

The building is named in honor of, and as an international tribute to, Dr. Robert H. Goddard, Father of the Space Age, distinguished alumnus, and professor of physics at Clark from 1914 to 1942.

LITTLE CENTER GALLERY

Opened in the fall of 1976, Clark's Little Center Gallery offers continuing exhibits that are open to the public at no charge. Artists whose works are exhibited are primarily those from the New England area who have not had wide exposure. In addition to providing an exhibit area, the student-managed gallery serves an educational purpose for art students at Clark University.



American Studies Program

PROGRAM COMMITTEE

Ronald P. Formisano, Ph.D., Program Director, Associate Professor of American History Martyn J. Bowden, Ph.D., Professor of Geography John J. Conron, Ph.D., Assistant Professor of English Warren Belasco, Ph.D., Mellon Fellow in American Studies James F. Beard, Jr., Ph.D., Professor of English Robert N. Beck, Ph.D., Professor of Philosophy George A. Billias, Ph.D., Professor of History Morris H. Cohen, Ph.D., Professor of Government Albert A. Anderson, Ph.D., Associate Professor of Philosophy James P. Elliott, Ph.D., Associate Professor of English Anthony W. Hodgkinson, Associate Professor of Film and Television Studies, Chairman of Film Studies Program Douglas L. Johnson, Ph.D., Associate Professor of Geography William A. Koelsch, Ph.D., Associate Professor of Geography and History Sharon Krefetz, Ph.D., Associate Professor of Government

and International Relations

Ronnie Lee Grad, Ph.D., Assistant Professor of Art History

Bonnie Lee Grad, Ph.D., Assistant Professor of Art History Robert J. Ross, Ph.D., Assistant Professor of Sociology

AMERICAN STUDIES CONCENTRATION

At present, American Studies at Clark is neither a department nor a major but a concentration of seven required courses designed both as an extension of traditional majors and as a coherent undertaking in itself.

The American Studies concentration offers an interdisciplinary approach to the study of those human values which define American culture and which variously manifest themselves in physical, social, and intellectual environments, in events, in institutions, and in the arts (primarily literature, painting, film, and architecture). The concentration has two aims: One is to enable students to analyze closely a variety of 'texts' (a group of people, a house, a poem) and to place these in a cultural 'context,' which brings them into relation with each other. The other is to enable students to arrive at an understanding of American culture as a pattern of values which both permeates American space and changes over time.

Since American Studies is not in itself a discipline but rather a conversation between disciplines, the concentration is based on a conviction that the basis of this conversation is fluency in—or at least acquaintance with—traditional disciplines in the humanities and the social sciences. Students are therefore expected to augment their major discipline with introductory work in two other disciplines. They are further expected to integrate and focus their study of American culture in the program offerings. Finally, they will be encouraged to study, beyond the introductory level, things of interest in the more than 30 courses on American subjects offered at Clark and at affiliated institutions.

The requirements of the Concentration:

- Students are required to take the two core courses, Introduction to History and American Studies and American Culture and Society, 1820-1860. Long-term planning involves the notion of a cycle of courses to be taught in alternate years, any one of which, combined with Introduction to History and American Studies, would satisfy the concentration requirement.
- Students are required to take four courses in either an American history/literature or an American history/geography sequence. Students interested in the American history/literature sequence would elect two of the following history courses (201., 203., 205., 208., 218., or 241.) and

combine these with both semesters of English 101. Students interested in the American history/geography sequence would include any two of the history courses just mentioned with any two of the following geography courses (162., 253., 245., or 255.) in their programs.

 Students are also required to take the American Studies Senior Seminar.

AMERICAN STUDIES ELECTIVES

More than 30 courses in American subjects are taught at Clark and at affiliated institutions. A guide to these courses will be available to students in the near future.

COURSES

INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

This course is an introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed.

Full course, Semester 1.

Mr. Ford, Mr. Formisano.

AMERICAN CULTURE AND SOCIETY, 1820-1860.

This course is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention will be paid to the cultural geography, the arts (primarily literature and painting), and to some significant political and social issues of the period. Some of the germinal works in American studies (Leo Marx's The Machine in the Garden and R.W.B. Lewis' The American Adam, for example) will be read to provide contexts for the study of representative cultural and social expressions of the period. These expressions will include wilderness, pastoral, small town, and urban landscapes; landscape and portraiture in painting; writings of Emerson, Hawthorne, and Melville; and Jacksonian thought and politics. In 1978-79, it is planned that this will be taught as a cluster course by Mr. Formisano, Mr. Conron, and members of the staff at Sturbridge Village, under the auspices of the Program of Humanistic Studies. Full course, Semester 2. Mr. Formisano, Mr. Conron.

SENIOR SEMINAR.

Sturbridge Village Staff.

Not offered, 1978-79

This is a seminar on aspects of American culture, organized thematically and open to American studies concentrators who have fulfilled all other requirements.

Full course.

Fall 1978: NOSTALGIA: THE FASCINATION WITH GOLDEN AGES.

Why do other ages seem better than our own? What is it that makes old things and old ways seem more "authentic"? How is nostalgia exploited for commercial and political advantage? How have people in other times mystified the past? Topics include: folk imagery, the Victorian revival, genealogy boom, antiques, tourism, and nostalgic heroes. See also English 274. and History 239.

Full course, Semester 1.

Mr. Belasco.

Spring 1979: THE CULTURE BUSINESS.

Who produces and sells the dreams and ideals that inspire our daily lives? How are values, artistic insights, myths, and symbols converted into profitable commodities? What is the relationship between the creative artist and the marketplace, and how has this relationship changed over time? Using an interdisciplinary approach, we will look at the following culture industries: publishing, movies and TV, tourism, advertising, art galleries, records, and, for historical comparison, nineteenth-century

theater. See also History 242. and Visual and Performing Arts 100. Full course, Semester 2. Mr. Belasco.

Art

(See Department of Visual and Performing Arts.)

Astronomy

PROGRAM FACULTY

Roy S. Andersen, Ph.D., Professor of Physics, Program Chairman

UNDERGRADUATE PROGRAM

Two courses are available at the introductory level. Advanced topics directly relating to astronomy are listed under Physics. Students interested in advanced work in astronomy should consult with the instructor or the physics undergraduate adviser.

COURSES

1. EXPLORING THE UNIVERSE.

This course is explicitly designed for the non-science major who wishes to learn about the stars. It is also intended to provide for the interests of the student who seeks an acquaintance with the concepts and methods of science but who does not wish the detail found in the traditional introductory science survey course. Topics considered are interdisciplinary in character since astronomy involves physics, chemistry, biology, and geology. The use of mathematics is minimized; only simple algebra is utilized. Half of the course is devoted to consideration of the planets and the sun. In the other half of the course, the stars, their life cycles and the galaxies are studied. Theories of the composition and origin of the solar system, of the universe, and of life are explored. The heavens are best understood by having students make direct observations of celestial objects. Emphasis is therefore placed on the making, analyzing, and reporting of observations on the moon, sun, planets, meteors, stars, variable stars, nebulas, and galaxies. Students make these observations using telescopes in the University Observatory as well as on several night field trips. Full course, Semester 1. Mr. Andersen.

2. BLACK HOLES AND COSMOLOGY.

This course is also designed for the non-science major who wishes to explore in greater depth the nature of the universe. Following a review of the composition of the universe, consideration will be given to the properties of space and time. These will lead to the formulation of a general description of the universe. From this will come the prediction of the existence of black holes. The various cosmological theories will be examined in detail, along with supporting or refuting evidence obtained through optical, radio, and x-ray astronomy. Illustrative exercises will be employed. Offered in alternate years. Prerequisite: Astronomy 1., or permission of instructor.

Full course, Semester 2.

Mr. Andersen.

Biology

DEPARTMENT FACULTY

Rudolph F. Nunnemacher, Ph.D., Professor of Zoology, Acting Chairman

Vernon Ahmadjian, Ph.D., Professor of Botany

John J. Brink, Ph.D., Professor of Biochemistry
Joseph C. Curtis, Ph.D., Professor of Zoology
John T. Reynolds, Ph.D., Professor of Microbiology
H. William Johansen, Ph.D., Associate Professor of Botany
Timothy A. Lyerla, Ph.D., Associate Professor of Developmental
Genetics*

Margaret Comer, Ph.D., Assistant Professor of Biology Samuel E. Johnson, Ph.D., Assistant Professor of Zoology Donald J. Nelson, Ph.D., Assistant Professor of Chemistry, Adjunct Assistant Professor of Biology

Nicholas S. Thompson, Ph.D., Associate Professor of Psychology and Ethology

Affiliated Staff

Warren Litsky, Ph.D., Professor of Microbiology Ronald B. Luftig, Ph.D., Professor of Biology Leonard J. Morse, M.D., Professor of Microbiology Jinnque Rho, Ph.D., Assistant Professor of Microbiology Harris Rosenkrantz, Ph.D., Professor of Biochemistry

*on leave 1978-79

UNDERGRADUATE PROGRAM

The Biology Deparment views as its primary roles for undergraduate education within the University: to train biologists in a preprofessional sense, for those individuals entering careers that use the biological sciences as their bases; to provide support for other programs in the University that require some exposure to biology for their fulfillment; and to integrate the paradigm of the biological sciences into a liberal arts curriculum. Its goals for its majors relate directly to the development of an independent or autonomous learner, particularly since this development is required for anyone who is to remain current with the ever increasing body of knowledge in this field. With respect to its undergraduate majors then, the department attempts:

 to provide an updated, coherent statement of the field—a curriculum organized to reflect the inherent organization of the discipline.

to familiarize the student with the process by which biological information is acquired by exposing particularly the interrelationships between experiment and theory.

 to develop a critical facility in its students, an ability to judge quality work within this field.

The major in biology is suitable for those intending to apply for graduate studies in biology, medicine, dentistry, etc. Courses in the major must be taken for the letter grades, unless otherwise specified.

A departmental major must take eight courses in biology of which six must be courses more advanced than the introductory course. However, only two of the six courses may be in directed research, directed readings or a seminar course. The "introductory biology year course" will be prerequisite for all other courses in biology, but students must fulfill prescribed prerequisites for specific courses.

A biology major must take, in related fields, a year of general chemistry, a year of introductory physics, and at least one additional year course in chemistry, physics or geology including in each case the laboratory for a total of six semester or three year courses. Additionally, the major in biology must take a full year of calculus. None of the aforementioned courses may be taken on a "Pass-No Record" option.

At least nine courses of a major's program must be taken from courses outside the field of biology, chemistry, geology, mathematics, physics and must not include any of the courses specified in the preceding paragraphs.

The department urges all potential majors to select and to consult with an advisor to obtain the maximum benefits which the department has to offer.

HONORS PROGRAM

An Honors Program is available to especially well-qualified

majors and requires the student to engage in an independent research project during the senior year together with meeting other departmental requirements, i.e., a broad distribution of courses, quality grades, and an honors thesis and examination. Frequently, the Honors Project is the continuation of research during the summer.

Specific criteria for admission and conduction of the Honors Program are available in the departmental office.

GRADUATE PROGRAM

The department offers courses leading to Master of Arts and Doctor of Philosophy degrees in specialized phases of bacteriology, biochemistry, botany, cytology, embryology, genetics, marine biology, physiology, and zoology. Admission to the graduate program assumes adequate preparation in the basic sciences, an overall undergraduate record of B or better and satisfactory standing in the Graduate Record Examination. Tuition scholarships and teaching assistantships are available. Detailed information can be obtained from the department chairman.

MASTER OF ARTS

The program usually requires three or four semesters of academic work and includes teaching experience and research culminating in an acceptable thesis.

DOCTOR OF PHILOSOPHY

The requirements are identical with those of the University and can be found in the catalog section on The Graduate School and includes teaching experience. The student's program is planned according to his needs with his program director.

COURSES

101. PALEO-ZOOLOGY.

This is an interdepartmental course in geology and biology combining a systematic survey of the morphology, taxonomy, and geologic history of groups of animals commonly found as fossils with their evolution to present-day forms. Three lectures and one laboratory period each week including field trips Full course, Semester 2. Mr. Nunnemacher.

104. PLANTS AND MAN.

Not offered, 1978-79. This is a course exploring the plants and plant products that have helped shape the development of man. Included will be cereal crops, forests and forest products, beneficial and harmful fungi, selective breeding of useful plants, historical aspects of agriculture, useful and destructive aquatic plants, noncereal food plants, drugs and medicinal plants, and future food supplies. Not

for Biology major credit. Full course, Semester 2.

Mr. Johansen.

105. BIOLOGY AND MAN.

This is an introductory course intended for those who do not plan to major in biology. The course surveys the animal kingdom and emphasizes the relationships of various animals to man. Man is considered the example of an animal's solution to problems of metabolism, irritability, and reproduction. As far as possible, man's relation to current biological problems of ecology, etc. will be discussed.

Full course, Semester 2.

Mr. Nunnemacher.

106. BOTANY OF THE MAINE COAST.

This is a field course in basic botany and the identification of marine and fresh-water algae, fungi, lichens, and flowering plants. Full course, Modular Term. Mr. Ahmadjian, Mr. Johansen.

107. MARINE ECOLOGY OF BERMUDA.

This is a ten-day field study at the Bermuda Biological Station. Non-credit, Modular Term. Mr. Nunnemacher.

108. INTRODUCTION TO BIOLOGY.

Biology 108. is a full year course offered for those students who intend to major in Biology and/or take additional courses in the life sciences. The course is intended to prepare students who wish to broaden and deepen the concepts and skills acquired in secondary school for the more specialized advanced courses offered by the department. One half of the students enrolling in the course in September will be assigned to lecture/laboratory/discussion groups (108.1.) taught by the staff over Semester 1. In January, those students will be assigned to two seminar courses (selected from 108.6-.9.) for the two halves of Semester 2. The other half of the students enrolled in September will be assigned to two seminar courses (selected from 108.2-.5.) for the two halves of Semester 1. This second group also will be assigned to lecturelaboratory/discussion groups (108.1.) taught by Mr. Johansen over Semester 2.

The program units for the coming year are as follows: Semester 1.

108.1.

Lecture/laboratory/discussion groups - (Offered in Semester 1, limited to 100 students in lectures and to 20 students in laboratory/discussion sections).

108.2-.5.

Introductory Seminar in Biology (all four offered twice, each in both the first and second halves of Semester 1, limited to 20 students in each class).

.2.-

Island Biology - Nunnemacher.

3 -

Historical Development of Nucleic Acid Function - Curtis.

.4.-Aquatic Biology - Johansen.

To be arranged - Staff.

Semester 2.

108.1

Lecture/laboratory/discussion groups - Johansen (Offered Semester 2, limited to 100 students in lectures and to 20 students in laboratory/discussion sections).

108.6-.9.-

Introductory Seminar in Biology (all four offered twice in Semester 2, limited to 20 students in each class).

.6.-

Symbiosis - Ahmadjian.

.7.-

Marine Biology - Johnson.

.8.-

To be arranged - Staff.

.9.-

Brain Biochemistry & Behavior - Brink.

1 full course and 2 half

courses through the year.

109. MICROBIOLOGY.

This is a survey of the protists (with emphasis on the bacteria), their activities and the methods by which they are studied. Three lectures and three hours of laboratory work per week (limited to 40 students).

Full course, Semester 1.

Mr. Reynolds.

Staff.

110. BOTANY.

This is a survey of the taxonomy, structure, and physiology of plants. Three lectures and one laboratory period per week. Full course, Semester 1. Mr. Johansen.

112. COMPARATIVE ANATOMY.

This is a comparative study of the morphology of the vertebrates with emphasis on the evolution of animals from fish to man.

Prerequisite: 108. Two lectures and two laboratory periods per

Full course, Semester 1.

Mr. Nunnemacher.

113. ALGAE AND FUNGI.

Not offered, 1978-79.

Representative examples of the major groups of algae and fungi are studied with emphasis on their structure, interrelationships. and adaptation to their environment. Prerequisite: one course in botany or permission of instructor. Two two-hour lecturelaboratory periods per week.

Full course, Semester 2.

Mr. Johansen.

114. AQUATIC BOTANY.

Not offered, 1978-79.

This is a study of the algae, fungi, and higher plants that inhabit fresh waters and oceans. Emphasis is on ecological aspects and plant identification. A field and laboratory course. Full course, Modular Term. Mr. Johansen.

115. FLOWERING PLANTS.

This course is an introduction to the classification, evolution, ecology, and economic importance of flowering plants, with emphasis on the New England flora. Ferns, fern-allies, and gymnosperms will also be included. Short field trips will be made to nearby areas for examination of the spring flora. A collection of plants will be encouraged but not required. Two two-hour lecturelaboratory periods per week.

Full course, Semester 2.

Mr. Ahmadijan.

117. PRINCIPLES OF ECOLOGY.

This is a course in basic ecological theory governing organismenvironment interrelationships. Population dynamcis, energy flow, zoo-geography, community ecology, as well as ecological methods, and environmental problems will be included. Three lectures per week.

Full course, Semester 1.

Mr.Johnson.

118. GENETICS.

This is a course in the principles and problems of genetics. Full course. Semester 1. Ms. Comer. Ms. Comer. Repeated Semester 2.

119. EXPERIMENTAL GENETICS.

Not offered, 1978-79.

One laboratory period per week.

Ms. Comer. Full course, Semester 2.

120. HISTOLOGY.

The microscopic anatomy of tissues and organs of mammals will be studied. Prerequisite: 112. Two lectures and two laboratory periods per week.

Full course, Semester 2.

Mr. Nunnemacher.

137. CELLULAR BIOLOGY.

The cell as a structural and functional unit will be studied. Introduction to the physiochemical properties and metabolic roles of molecules and macromolecules of cellular origin. Discussion of the roles of the nucleus and cytoplasm in the regulation of cellular processes. Three lectures per week. Prerequisite: 108. or permission of instructor.

Full course, Semester 2.

Mr. Curtis.

170. HUMAN NUTRITION.

The basic components of food will be considered with respect to their biological function of maintaining human growth and vitality will be studied. The role of food additives and cultural variations in diet will be discussed. Prerequisite: 108.

Full course, Semester 2.

Mr. Brink.

181. INTRODUCTION TO ETHOLOGY.

See Psychology 195.

Full course, Semester 1.

Mr. Thompson.

182. PRIMATE SOCIAL BEHAVIOR.

Not offered, 1978-79.

The study of the social behavior of monkeys and apes highlights central problems in psychological, zoological, and anthropological approaches to behavior. It also has important implications for the past evolution and present nature of man's sociality. See also Psychology 141.

Full course.

183. PRINCIPLES OF BEHAVIORAL EVOLUTION.

From a broad survey of the social systems of animals, this course will attempt to distill the general principles that have directed the evolution of animal behavior. See also Psychology 246. Full course, Semesters 1, 2, Mr. Thompson.

211. SEMINAR IN SYMBIOSIS.

The many different aspects of plant and animal symbiotic associations will be studied using original research articles. Along with the descriptive and functional aspects of each type of association, the experimental techniques used to study the relationships between the symbionts will be examined. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Ahmadjian.

212. SEMINAR IN PLANT ECOLOGY. Not offered, 1978-79. Interactions between plants and their physical and biological environments will be discussed. Prerequisite: 110. or 117. or permission of instructor.

Full course, Semester 2.

Mr. Johansen.

213. PLANT PHYSIOLOGY.

Not offered, 1978-79. This is an introduction to the function and chemistry of plants. Three lectures, one laboratory period per week. Prerequisite: one course in botany and one in chemistry.

Full course.

Mr. Brink, Mr. Johansen.

214. SEMINAR IN PHYCOLOGY.

Selected topics dealing with algae from the structural, physiological or ecological points of view will be discussed. Prerequisite: 110. and 113. or permission of instructor. Full course, Semester 2. Mr. Johansen.

215. INVERTEBRATE ZOOLOGY.

This is a detailed survey on the diversity of invertebrates. Anatomical and histological examination of selected types. concepts of evolution and speciation. Prerequisite: two semesters of biology or permission of instructor. Two lectures and two laboratory periods per week. Full course, Semester 2. Mr. Johnson.

216. FIELD ECOLOGY.

This is an introduction to ecological methods involving studies of both aquatic and terrestrial habitats. Prerequisite: Biology 117. or permission of instructor. Two lectures and two laboratories per

Full course, Semester 1.

Mr. Johnson.

217. MARINE BIOLOGY.

This is an introduction to the marine ecosystem in relation to physical, chemical, geological, and biological factors. Two lectures per week. Prerequisite: Biology 117. and permission of instructor. Full course. Semester 2. Mr. Johnson.

219. LABORATORY IN ETHOLOGY. Not offered, 1978-79.

This is an introduction to observation techniques and the study of human and animal subjects. Prerequisite: permission of instructor. Full course. Mr. Thompson.

221. EMBRYOLOGY.

This is a consideration of the fundamentals of vertebrate embryology. Three lectures and one laboratory period per week. Prerequisite: 112, or permission of instructor. Full course, Semester 2. Staff.

224. NEUROANATOMY.

Not offered, 1978-79.

The structural and functional organization of the central nervous system of man will be studied. Prerequisite: 112. or permission of instructor. Three lectures per week.

Full course, Semester 2.

Staff.

225. ELECTRON MICROSCOPY.

This is an introduction to the principles of electron optics, use of the electron microscope, preparation of speciments, and the techniques of electron microscopy applicable to biological investigations. Two lectures and two laboratory periods per week. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Curtis.

228. ADVANCED MOLECULAR GENETICS.

This is a consideration of the topics at the forefront of molecular genetics, such as genes for ribosomal RNA and protein, DNA sequences of promotor and operator regions, plasmids, and recombinant DNA. Students will read journal articles and write a paper. Prerequisite: 118.

Full course, Semester 2.

229. EVOLUTIONARY BIOLOGY. Not offered, 1978-79. This is a review of the neo-Darwinian synthesis of evolution and genetics. Topics will include population genetics, speciation, polymorphism, inbreeding, and molecular evolution. Prerequisites:

Genetics, Ecology or Bio-Geography. Full course, Semester 1.

Staff.

230. BIOLOGY: THE STATE OF THE ART. Not offered, 1978-79. This is a seminar for seniors and beginning graduate students who are interested in assessing the progress that has been made in approaching the outstanding questions in the biological sciences. Prerequisite: permission of instructor. Two 75-minute meetings per week

Full course, Semester 1.

Mr. Reynolds.

232. SELECTED TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH.

This is a seminar for advanced undergraduates and beginning graduate students. Prerequisite: Biology 108. and permission of instructor. Two 75-minute meetings per week. Full course, Semester 2 Mr. Reynolds.

235. SEMINAR IN CELLULAR BIOLOGY. Not offered, 1978-79. Prerequisite: Biology 137. or permission of instructor. Full course. Mr. Curtis.

238. ISSUES IN PUBLIC HEALTH.

Prerequisite: permission of instructor. Full course, Semester 1.

Mr. Reynolds.

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

This is an attempt to deal with those problems associated with water pollution that are amenable to solution through the application of concepts and approaches of the biological sciences will be studied. The participants do not have to be biology majors, but will be expected to be literate in one or more of the scientific disciplines. Prerequisite: permission of instructor. Two 75-minute meetings per week. See also Science, Technology and Society

Full course, Semester 2.

Mr. Reynolds.

240. GENERAL ANIMAL PHYSIOLOGY.

This is an introduction to the principles underlying physiological functions common to living organisms. The course covers the subcellular, cellular, and organ levels of organization and places a primary emphasis on mammals. Prerequisites: Introduction to Biology and Introductory Chemistry. Three lectures and one laboratory per week. Full course, Semester 2.

Staff.

242. COMPARATIVE ANIMAL PHYSIOLOGY.

Not offered, 1978-79.

Full course.

247. SEMINAR IN NEUROPHYSIOLOGY. Not offered, 1978-79. This is a seminar on the principles of transmission, integration, and storage of information in neuronal pathways and other considerations of the nervous system and muscles. Prerequisite: one course in neurophysiology or its equivalent or permission of instructor.

249. PRINCIPLES OF NEUROPHYSIOLOGY.

The physiology of central and peripheral nervous systems, receptors and muscles, considered in both vertebrates and invertebrates will be studied. Three lectures and one laboratory period per week. Prerequisite: Biology 240. or permission of instructor.

Full course, Semester 2.

Full course, Semester 2.

Staff.

250. PRINCIPLES OF APPLIED IMMUNOLOGY.

Not offered, 1978-79.

This is an introduction to the basic principles, problems, and theories concerning the immunological behavior of man and the animal kingdom, familiarizing the student with the experimental evidence upon which are based the present concepts of immune mechanisms. The course is oriented to demonstrate the basic methods of experimental immunology and the application of such methods to biological problems. Full course. Staff.

260. DIRECTED RESEARCH.

This is an advanced semi-independent study of an approved topic under the direction of a departmental member. Prerequisite: permission of instructor. Credit/no record only. Variable credit.

Semesters 1, 2, Modular Term.

Staff.

261. DIRECTED READINGS.

Advanced readings on an approved topic will be under the direction of a departmental member. Prerequisite: permission of instructor. Credit/no record only. Variable credit.

Semesters 1, 2, Modular Term.

262. HONORS IN BIOLOGY.

Readings and research for students in the Honors Program. Credit/no record only. Semesters 1, 2, Modular Term. Staff.

268. PRINCIPLES OF PHARMACOLOGY.

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. See also Chemistry 268. Full course, Semester 1. Mr. Brink, Mr. Nelson.

270. BIOCHEMISTRY.

The principles of mechanisms of biochemical reactions in an understanding of the metabolism of foodstuffs and the role of enzymes, nucleic acids, and hormones will be considered. An acquaintance with the instrumentation in biochemical research will be presented. Prerequisite: Chemistry 130. Three lectures and one laboratory per week, through the year. Full course, Semester 1.

271. BIOCHEMISTRY OF NUCLEIC ACIDS. Not offered, 1978-79. The chemical and physical properties of RNA and DNA derived from various sources will be considered with respect to their

isolation, separation, and characteristics. The functional role and biological significance of the nucleic acids in subcellular organelles will be examined. Prerequisite: Biology 270. or permission of instructor.

Full course. Mr. Brink.

273. NEUROCHEMISTRY.

Not offered, 1978-79.

The metabolic aspects of brain amines and biopolymers will be considered in relation to neural function. Effects of drugs on memory processes will be discussed in terms of biochemical mechanisms. Prerequisite: Biochemistry or permission of instructor.

Full course, Semester 2. Mr. Brink.

280. THE HISTORY AND PRESENT STATUS OF INSTINCT.

Not offered, 1978-79.

It has long been argued and long contested that man and animal alike are guided in their social behavior by innate tendencies. This offering will emphasize the devious and irrational course of progress in a scientific field of study so loaded with social and philosophic implications. Prerequisite: permission of instructor. See also Psychology 260.

Mr. Thompson.

281. RESEARCH IN ANIMAL BEHAVIOR.

See Psychology 218. Prerequisite: permission of instructor.
Full course, Semester 1. Mr. Thompson

291. QUANTITATIVE METHODS FOR BIOLOGY.

Not offered, 1978-79.

Elements of statistical methods will be stressed. These will include hypothesis testing, design, and sampling. Also a brief introduction to computer programming and model-building techniques will be included.

Full course. Staff.

300. READINGS AND RESEARCH IN BIOLOGY.

Variable credit.

Full course.

Semesters 1, 2, Modular Term.

Full course, Semester 1.

Staff.

310. SCIENTIFIC WRITING FOR GRADUATE STUDENTS.

This is an introduction to the techniques of writing scientific papers. The principal assignment will be the writing of a journal article and a detailed analysis of the steps involved. Related areas which will be covered include searching the scientific literature, handling of quantitative data relevant to biological systems, and oral presentation of a scientific paper. Prerequisite: permission of instructor.

Full course, Semester 1. Mr. Ahmadjian.

315. SEMINARIN LICHENOLOGY.Not offered, 1978-79. This is a detailed, yet broad, treatment of lichens with discussion of recent theories concerning their evolution and development. Symbiotic interactions, ecology, growth, nutrition and metabolism, water relations, chemistry, and genetics will be considered. Several local field trips and laboratory sessions will be held to deal with aspects of taxonomy and morphology.

317. MICROCLIMATOLOGY AND BIOMETEOROLOGY.

Not offered, 1978-79.

Mr. Ahmadjian.

This is an introduction to the quantitative analysis of organismenvironment interactions.

Full course. Mr. Johnson.

325. SEMINAR IN ULTRASTRUCTURE. Not offered, 1978-79. The structure of macromolecules and subcellular organelles in relation to their biological functions will be discussed. Evidence obtained by a variety of physical and chemical methods will be considered, particular emphasis being placed on electron microscopic studies. Prerequisite: permission of instructor. Full course.

Mr. Curtis.

332. SEMINAR IN BACTERIOLOGY.

Not offered, 1978-79.

Selected topics in bacterial ecology and applied bacteriology will be discussed. Prerequisite: permission of instructor.
Full course, Semester 1. Mr. Reynolds.

334. SEMINAR IN BEHAVIOR AND EVOLUTION.

This is a consideration of contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. See also Psychology 334.

Full course, Semester 2. Mr. Thompson.

341. SEMINAR IN ENDOCRINOLOGY.

Full course, Semester 1.

Mr. Curtis.

347. CENTRAL NERVOUS SYSTEM.Not offered, 1978-79. The functional organization and physiology of selected neural networks in the central nervous system of certain vertebrate and invertebrate animals will be studied. Neuronal systems will include the cerebellum, cerebral cortex, and spinal cord of mammals and the central ganglia of molluscs and anthropods. In these discussions, the role of command fibers and central oscillators in initiating stereotyped behaviors and biological rhythms in lower animals will be examined.

Full course. Staff.

350. GRADUATE SEMINAR.

Full course.

Semesters 1, 2, Modular Term.

Staff.

360. MASTER'S THESIS.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

390. DOCTORAL DISSERTATION.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

Chemistry

DEPARTMENT FACULTY

Harry C. Allen, Jr., Ph.D., Professor of Chemistry, Department Chairman

Edward N. Trachtenberg, Ph.D., Professor of Chemistry Wen-Yang Wen, Ph.D., Professor of Chemistry Daeg S. Brenner, Ph.D., Associate Professor of Chemistry Karen L. Erickson, Ph.D., Associate Professor of Chemistry Alan A. Jones, Ph.D., Associate Professor of Chemistry Donald J. Nelson, Ph.D., Assistant Professor of Chemistry John J. Brink, Ph.D., Professor of Biochemistry, Adjunct Professor of Chemistry

Marcel Gut, Ph.D., Professor of Chemistry (Affiliate) George E. Wright, Ph.D., Assistant Professor of Chemistry (Affiliate)

UNDERGRADUATE PROGRAM

The Chemistry Department offers a series of programs with the following goals in mind.

- Make it possible for the chemistry major to complete his major requirements in three years without lowering academic standards.
- 2) Provide a flexible set of course offerings so that a student may enter a chemistry program at a number of levels.
- Increase the number of offerings available to students not majoring in chemistry or the sciences.
- 4) Offer a range of chemistry courses with an emphasis in environmental and health related fields.

5) Offer a program for chemistry majors which will prepare students for environmental and health related careers.

The requirements for the chemistry major are two courses in mathematics beyond Mathematics 11., two courses in physics (Physics 11. or 12. and Physics 19. or 119.) and eight courses in chemistry and related fields beyond Chemistry 100. or 102. These courses must include:

Course	Number	Course
Organic Chemistry	130. or 132.	. 2
Inorganic Chemistry	150.	1
Physical Chemistry I	160.	1
Physical Chemistry II or	162.	
Biophysical Chemistry	164.	1
Environmental Chemistry or	142.	
Analytical Biochemistry	144.	1
		Total 6

The remaining two-course requirement may be met either by advanced chemistry courses or, with the permission of the Chemistry Department, by appropriate courses in mathematics, physics, and biology. Although not a requirement, majors planning advanced degree work in chemistry are strongly urged to take Physics 12, and 119, rather than Physics 11, and 19

In addition at least six courses in a major's program must be taken from courses outside the fields of biology; chemistry; geology; mathematics; physics; science, technology and society; and environmental affairs.

Students wishing to be accredited by the American Chemical Society should consult the department chairman with regard to specific course requirements.

Students planning graduate study in chemistry are urged to take Chemistry 135., 200., 230., and/or advanced mathematics, physics, and biochemistry courses, depending on the area of interest. A reading knowledge of German, French, or Russian is also recommended. All chemistry majors are encouraged to undertake independent research projects either as a candidate for honors (Chemistry 215.) or in a special projects course (Chemistry 214.) and may do after completing Chemistry 160.

A student may elect as his/her first course in Chemistry -Chemistry 10., 100., 102., 130., or 132. The decision to start with Chemistry 130., or 132. (all accelerating options) must be made in consultation with the department and may require taking a placement examination offered at the beginning of the academic year.

GRADUATE PROGRAM

The department offers programs leading to the degrees of Master of Arts and Doctor of Philosophy with specialization in various fields of chemistry. Emphasis is placed on tailoring programs to fit the specific needs and desires of the graduate student. To facilitate this goal, a committee of interested faculty works with each student to advise and review his/her progress in research work and, together with the student, defines the formal course work requirements. In the case of master's degree candidates, the requirements are essentially those of the University as stated elsewhere in the catalog. Up to one year's equivalent of teaching apprenticeship will be required of all candidates for advanced degrees.

In addition to formal course work, the student must pass qualifying and preliminary examinations, and the department language requirement must be met. For further details, students should consult the appropriate departmental publications.

Graduate scholarships, teaching assistantships, and research fellowships are available. Further information on these awards may be obtained from the department chairman.

COURSES

10. CHEMISTRY FOR THE CONCERNED CITIZEN.

This one-semester, relatively non-mathematical course is designed

for students majoring in social science or the humanities, and is intended to develop a qualitative feeling about chemistry as it relates to the modern world. Approximately half of the course is concerned with the development of modern chemical thought, while the remainder deals with current societal problems such as nuclear weapons and reactors, air and water quality, drugs, food additives, polymers, poisons, and others. Laboratory experiments using simple chemical techniques familiarize students with testing procedures for environmental, food, and other samples of interest. Students are encouraged to analyze samples of their own choosing in the laboratory. Three lectures and one three-hour laboratory per week. Full course, Semester 2. Mr. Brenner.

100. INTRODUCTORY CHEMISTRY.

This systematic study of the elements and their principal compounds and of the fundamental laws and theories of chemistry is designed as an introduction to the field of chemistry. A knowledge of high school algebra is necessary; high school chemistry and physics, though helpful, are not required. This course is designed to meet the needs of chemistry majors, students interested in biology, physics, medicine, and dentistry as well as those seeking a knowledge of chemistry as part of their liberal arts education. Three lectures, one recitation and one fourhour laboratory per week. Two lecture sections with enrollment in each limited to 75.

Semesters 1, 2,

Full course.

Staff.

102. INTRODUCTORY CHEMISTRY.

This course is identical to Chemistry 100, except that it will meet for three lectures and one four-hour laboratory per week during Semester 2 and for six lectures and two four-hour laboratories per week during the Modular Term. Enrollment limited to 30. Full course, Semester 2, Modular Term. Staff.

130. ORGANIC CHEMISTRY.

The lectures emphasize the synthesis and reactions of organic compounds, structure determination, and reaction mechanisms. The laboratory concentrates on the preparation and physical, spectral, and chemical properties of important classes of organic compounds. Prerequisite: Chemistry 100. or 102. or advanced placement. Three lectures and one four-hour laboratory per week. Full course, Semesters 1, 2. Ms. Erickson, Mr. Trachtenberg.

132. ORGANIC CHEMISTRY.

This course is identical to Chemistry 130, except that it is also open to students who either almost qualify for advanced placement on the basis of examination or who have completed Chemistry 10. Students in these categories must attend an additional recitation each week during which topics in general chemistry will be reviewed; other students may also attend these recitations if they wish. Three lectures and one four-hour laboratory per week during Semester 2, and six lectures and two four-hour laboratories per week during Modular Term. Full course, Semesters 1, 2, Modular Term. Mr. Trachtenberg.

135. QUALITATIVE ORGANIC ANALYSIS.

This laboratory study of the identification of organic compounds utilizes both classical chemical and modern instrumental techniques. Prerequisite: Chemistry 130. or 132. or permission of the instructor. One hour conference and seven hours of laboratory per week.

Full course, Semester 1.

Ms. Erickson.

142. ENVIRONMENTAL CHEMISTRY.

This course focuses on the chemistry related to environmental problems, particularly aquatic chemistry, and aquatic pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. Prerequisite: Chemistry 100. Two lectures and one

Mr. Jones.

144. BIOANALYTICAL CHEMISTRY.

This laboratory-oriented course presents both theoretical and practical aspects of quantitative analysis in biological systems. Topics discussed include chromatography, electrophoresis, immunochemistry, ultracentrifugation, absorption and fluorescence, enzyme analyses, and radioactivity counting procedures. Prerequisite: Chemistry 162. Offered in alternate

Full course, Semester 2.

Mr. Nelson, Mr. Jones, Mr. Brink.

150. INORGANIC CHEMISTRY.

Included in this descriptive chemistry course of the elements are such topics as acid-base theory and ligand field theory. Prerequisite: Chemistry 100., or 102. or equivalent. Two lectures and one four-hour laboratory per week. Full course, Semester 2.

160. PHYSICAL CHEMISTRY I.

The lectures cover principles of physical chemistry applied to gases, liquids, and solids; chemical thermodynamics; solution chemistry. The laboratory includes experiments in physical chemistry techniques of measurement and technical report writing. Prerequisite: Mathematics 12. and either Chemistry 100. or 102. Chemistry 130. or 132. is suggested as a pre- or corequisite. Prerequisite or corequisite: Physics 11. or a strong high school background in physics and enrollment in the recitation part of this course. Three lectures, one four-hour laboratory and one optional recitation every other week.

Full course, Semester 1,

Mr. Brenner.

162. PHYSICAL CHEMISTRY II.

The topics covered in this continued discussion of physical chemistry are solutions of the Schrodinger equation for simple systems, atomic and molecular spectroscopy, magnetic resonance, solid state and x-ray diffraction, statistical thermodynamics, and chemical kinetics. Three lectures, one fourhour laboratory, and one optional recitation every other week. Full course, Semester 2. Mr. Wen.

164. BIOPHYSICAL CHEMISTRY.

This rigorous course in physical chemistry, offered as an alternate to Chemistry 162. emphasizes the physical chemistry of biological systems: enzyme kinetics, spectroscopy of biological systems, macromolecules, transport processes, x-ray diffraction. Prerequisite: Chemistry 160. Three lectures and one four-hour laboratory per week. Offered in alternate years. Full course, Semester 2. Mr. Nelson.

200. PHYSICAL CHEMISTRY III.

Not offered, 1978-79. This is essentially an introduction to quantum mechanics and covers elementary quantum-mechanical treatment of the structure of atoms and molecules. Three lectures and one discussion per week. Prerequisites: Chemistry 160. and 162. or 164. Mr. Allen.

210. PHYSICAL CHEMISTRY IV.

Not offered, 1978-79.

The course deals with the application of group theory to problems of chemical interest such as molecular vibrations, hybrid orbitals and molecular orbital theory. Three lectures and one discussion per week. Prerequisite: Chemistry 200. or equivalent. Mr. Allen. Full course.

214. SPECIAL PROJECTS.

Individual investigations involve laboratory and/or literature research.

Variable credit.

Full course.

Semesters 1, 2, Modular Term.

Staff.

215. HONORS COURSE.

The honors course, primarily for majors seeking departmental honors in chemistry, involves a laboratory research project and participation in departmental seminars.

Variable credit.

Semesters 1, 2, Modular Term.

Staff

220. POLYMER SCIENCE.

The physical chemistry of synthetic polymers will be presented including discussion of kinetic mechanisms of polymerization. molecular weight distributions, unperturbed dimensions, structure and conformation, viscosity, and dynamic properties. Specific experimental methods useful in polymer chemistry such as osmotic pressure, light scattering, gel permeation chromatography, viscoelastic response, nuclear magnetic resonance, and dielectric response will also be reviewed. Prerequisite: Chemistry 162. Offered in alternate years. Full course, Semester 2. Mr. Jones.

230. PHYSICAL ORGANIC CHEMISTRY.

This is a lecture course on the fundamentals of organic chemistry including molecular structure, acidity and basicity, kinetics, and mechanisms with emphasis on the most recent advances in organic chemical theory. Prerequisites: Chemistry 130. or 132... 160.or permission of the instructor.

Full course, Semester 2.

Mr. Trachtenberg

233. ORGANIC CHEMISTRY OF BIOMOLECULES.

This lecture course emphasizes the synthesis, proof of structures. reactions, and reaction mechanisms of important classes of molecules playing significant biological roles. Topics discussed will be the carbohydrates, fats, proteins, and cyclic ureides, including the pyrimidenes and purines of importance in drugs and on nucleic acids. In selection of other molecules from the steroids, alkaloids, and terpenoids will also be discussed briefly. Prerequisite: one year of Organic Chemistry (130. or 132). Full course, Semester 1. Mr. Trachtenberg.

235. NATURAL PRODUCTS.

The chemistry of selected naturally occurring compounds. Includes structure determination, synthesis, mechanistic interpretation of exotic transformations, and biogenetic theory. Prerequisite: Chemistry 130. or 132., 135. or permission of instructor. Three lectures and one four-hour laboratory per week. Offered in alternate years.

Full course.

Ms. Erickson.

242. NUCLEAR SCIENCE.

Not offered, 1978-79. This course covers the fundamentals of nuclear chemistry and physics: production, isolation, identification, and measurement of radioactive atoms. Three lectures and three laboratory hours per week. Prerequisite: permission of the instructor. Full course.

Mr. Brenner.

268. PRINCIPLES OF PHARMACOLOGY.

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. Prerequisite: Chemistry 132. Corequisite: Biology 270. See also Biology 268. Offered in alternate years.

Full course, Semester 1.

Mr. Nelson, Mr. Brink, Mr. Wright.

270. PROTEIN CHEMISTRY. Not offered, 1978-79.

This lecture course discusses the structure and function of biologically important macromolecules. Particular emphasis is placed on proteins (enzymes and non-catalytic proteins), protein synthesis from nucleic acids, and the structure and function of biological membranes. Prerequisite: Chemistry 130. Offered in alternate years.

Full course.

Mr. Nelson.

280. INSTRUMENTAL METHODS.

Not offered, 1978-79.

This laboratory course covers the principles and application of modern instrumental techniques to the separation and analysis of mixtures and for the characterization of pure compounds. Two lectures and six laboratory hours per week. Prerequisite: permission of instructor.

Half course.

Mr. Brenner.

300. RESEARCH.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

322. THERMODYNAMICS.

This lecture course discusses applications of three laws of thermodynamics to chemical systems.

Full course.

Mr. Wen.

323. STATISTICAL MECHANICS.

This lecture course treats statistical mechanics as a bridge between molecular properties and thermodynamic functions; with applications to chemical systems. Prerequisite: permission of instructor.

Full course.

Mr. Wen.

333. SYNTHETIC ORGANIC CHEMISTRY.

These lectures on synthesis of organic molecules emphasize scope and limitations of general methods, mechanism and stereochemistry, synthesis of carbon to carbon bonds, oxidation, and reduction. Prerequisite: Chemistry 230. or permission of instructor. Offered in alternate years.

Full course.

Ms. Erickson.

344. SELECTED TOPICS IN ADVANCED NUCLEAR

CHEMISTRY. Not offered, 1978-79.

This is a discussion of the current experimental and theoretical literature in nuclear reactions, fission, and nuclear spectroscopy. Prerequisite: Chemistry 242. or its equivalent.

Full course.

Mr. Brenner.

350. SEMINAR.

This seminar consists of reports on research work and discussions of recently published work.

No credit. Guest Lecturers, Staff, and Graduate Students.

361. MOLECULAR STRUCTURE. Not offered, 1978-79.

This course concerns physical methods relevant to the determination of molecular structure and the characterization of molecular motion. Several methods will be discussed although the emphasis will be on magnetic resonance. Offered in alternate years.

Full course.

Mr. Jones.

369. ELECTRONIC SPECTROSCOPY.

This is an introduction to the study of ultraviolet and visible absorption spectra as well as emission spectra. Prerequisite: permission of instructor. Offered in alternate years.

Full course.

Mr. Wen.

379. SPECIAL TOPICS.

This seminar course consists of research and literature; reports by graduate students.

Full course.

Full course. Staff.

380. RESEARCH CONFERENCE.

This conference consists of informal reports of research work being done in the laboratory.

No credit.

Staff, Graduate Students.

42 CLASSICS

Classics

PARTICIPATING FACULTY

Paul F. Burke, Ph.D., Assistant Professor of Classics

The following courses in Classical Humanities are taught in English and are recommended to students as part of their general education and to majors in Comparative Literature, English, Foreign Languages and Literatures, Fine Arts, History, Music, and Philosophy. Courses in Greek and Latin on all levels may be taken at The College of the Holy Cross through the Consortium.

COURSES

121. INTRODUCTION TO GREEK CULTURE, ART, AND ARCHEOLOGY.

This course is a general introductory survey of ancient Greek culture and history covering: the Bronze Age civilizations of Crete and Mycenae, the Classical Greek city-states, the conquests of Alexander, and the emergence of international urban culture in the Mediterranean world. Readings in the works of ancient authors will be chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archeology will be illustrated by slides.

Full course, Semester 1.

Mr. Burke.

122. INTRODUCTION TO ROMAN CULTURE, ART, AND ARCHEOLOGY.

This is a survey of ancient Roman culture and history, continuing the work of Classics 121., and covering the rise of Rome in the Hellenistic world, the Roman Republic and Empire, the end of the ancient world, and the beginnings of Christian Europe. Reading in the works of appropriate ancient authors in translation will be supplemented by secondary texts and by lectures on ancient art, politics, and religion. Many lectures will be illustrated by slides. Classics 121. is not a prerequisite but is recommended. Full course, Semester 2.

124. GREEK AND ROMAN MYTHOLOGY.

This course is a study of ancient Near Eastern, Greek, and Roman literary texts (along with some modern ones) which are particularly useful for gaining an understanding of the function of myth in Greco-Roman antiquity as a vehicle for artistic communication and social commentary. The archaeological and anthropological background of the ancient world will be sketched in and the religious and philosophical implications of myth will be discussed. The course will pay particular attention to the influence of ancient mythology on later European culture, especially literature and art. Various modern approaches to myth analysis will be touched upon: structural, psychoanalytical, and literary. Many of the lectures will be illustrated by slides.

Full course, Semester 2.

135. GREEK AND ROMAN DRAMA. Not offered, 1978-79. The course is a literary survey of ancient drama conducted

through the reading of plays by Aeschylus, Sophocles, Euripedes, Aristophanes, Plautus, Terence, and Seneca. Topics to be considered will include: the origins of drama in religion and myth, the evolution of tragedy and comedy, poetic and dramatic structure, character portrayal and staging, the purpose and place of drama in ancient society.

Full course.

Mr. Burke.

150. NARRATIVE IN ANCIENT HISTORICAL WRITING.

This is a survey of ancient modes of writing and interpreting history. By reading selected works of ancient authors in translation, students will examine the influence of myth,

propaganda, and rhetorical stereotyping on the portrayal of characters and events in ancient biographical and historical writing. Topics considered will include: narrative and stylistic technique, rhetoric, character portrayal, propaganda and reliability, the manipulation of events for artistic purposes, the effect of the author's intent on his work, and the presence or intrusion of the author's personality. The course will require reading, in translation, selections from Herodotus' History. Thucydides' History of the War between Athens and Sparta, Plutarch's Lives, Josephus' History of the Jewish War, Caesar's Commentaries, Tacitus' Annals and Histories, and works by Christian writers of the later Roman Empire. Reference will also be made to Old and New Testament ideas of patterns and purpose in history and to poetic treatments of history by authors such as Homer and Virgil.

Full course, Semester 2

Mr. Burke.

160. JEWS AND CHRISTIANS IN THE ANCIENT WORLD.

Not offered, 1978-79.

This is a historical and cultural survey of the complex and tumultuous period between the foundation of the Roman Empire and the sixth century AD, when Medieval culture was established in Europe. Two themes will dominate the course: (1) the struggle between pagan or Classical modes of thought and Judaeo-Christian beliefs and values, and the assimilation of each in the other; (2) the tension within the Christian movement between spiritual and practical concerns as the new religion came to dominate Western culture. The interaction in this colorful and fascinating period of Graeco-Roman, Jewish, and Christian cultures will be approached by reading ancient authors in translation, by studying appropriate secondary sources, and by examining representative samples of the visual arts of the period in lectures illustrated by slides. Other topics covered will include: the Jewish and Middle Eastern roots of Christianity, the position of Judaea as a subject state within the Roman Empire and its attempts at political autonomy, the diverse religions and philosophies current in the Mediterranean world, the establishment and significance of the idea of Rome in Western civilization. Full course.

Mr. Burke.

Comparative Literature

PARTICIPATING FACULTY

Kenneth Hughes, Ph.D., Associate Professor of German, Program Director

Raymond E. Barbera, Ph.D., Professor of Romance Languages Walter Schatzberg, Ph.D., Professor of German Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish Hartmut Kaiser, Ph.D., Associate Professor of German J. Fannin King, M.A., Associate Professor of Romance Languages Micheal K. Spingler, Ph.D., Associate Professor of French* Paul F. Burke, Jr., Ph.D., Assistant Professor of Classics Dorothy K. Kaufmann-McCall, Ph.D., Assistant Professor of French William Ferguson, Ph.D., Visiting Assistant Professor of Spanish Leo Ortiz-Minique, M.A., Visiting Instructor of Spanish *On leave 1978-79

UNDERGRADUATE PROGRAM

The Major in Comparative Literature

The major in comparative literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national

literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program which in turn reflects the broadest possible frame in which to pursue the study of literature.

Requirements

- No fewer than five courses must be taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases towards the fulfillment of the language course requirement.)
- Suggested sequence of core courses in Comparative Literature
 - (a) Ideally, the student should have taken Problems in Comparative Literature (CMLT 110.) or a similar introductory comparative literature course by the end of the sophomore year.
 - (b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (CMLT 230.), Elements of Narrative (CMLT 240.), or English Poetry (English 13.). Again, in certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the adviser.
 - (c) While a student may wish to devote the senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar in Literary Criticism (CMLT 251.).
- 3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with his/her faculty adviser.

UNDERGRADUATE/GRADUATE PROGRAM

The three-year B.A./M.A. Program in Comparative Literature is available to students who have completed the sophomore year, who have a good background in at least one foreign language (French, German, and Spanish), and who have a demonstrated interest in literature and literary criticism.

In order to achieve the general objective of the program becoming the highly critical student of literature — and to permit a common ground for discussions in the Colloquium on Literary Problems, the following sequencing of required core courses is suggested when possible. Exceptions will be made where special situations prevent this sequencing.

1) Elements of Narrative

2) Elements of Drama (1 unit) 3) Seminar in Literary Criticism (1 unit)

Reading lists will be made available to all students upon their acceptance into the program. These lists will assure that students are exposed to the same sources and methodologies and will make available a common vocabulary to enable participation in the discussions that form a regular and indispensable part of the process of critical awareness and investigation. The three core courses are integrated and designed to offer to students an exposure to critical ideas that will enable them to meet on common ground to consider actively the validity of ideas and methods. The three-year program beginning with the junior year is, in effect, an investigation of the nature of criticism as it applies to literary works. Fluency in that area, therefore, is the goal.

The Colloquium on Literary Problems

An indispensable part of the program is the colloquium. It is a forum where students and faculty meet one evening every two weeks to discuss problems ranging from modifications and evaluation of the program itself to discussion of critical problems in literary works. The colloquium allows the students the opportunity to express their ideas and to test them in the presence of their peers. It is designed to allow a free discussion of ideas which, however, involves careful preparation. First-year students who have yet to take the core courses will find themselves among

students who have completed their first and second years and also among those who are writing their theses. As a consequence, the colloquium, besides soliciting discussion, serves as a learningteaching experience with students progressing from the learning to the teaching stage.

Required Courses in Addition to Core Courses

It is basic to the philosophy of the program that each candidate become fluent in at least one foreign language. To this end, each candidate is to take six courses either in a foreign literature (German, French, and Spanish) in the original language or, where students have a command of more than one foreign language, in a combination of the two if desired. Such expertise precludes the parochialism of the monolinguist. It is indeed an anomaly that a comparatist should function on the basis of his native language alone. Students with a good language background are encouraged to learn more than one foreign language. A number of students currently enrolled in the program find themselves in this category.

Teaching Internship

Some teaching experience is a requirement for the M.A. degree. A teaching internship will be available for qualified students in the final year. Interns will serve as instructors and discussion leaders in foreign language, foreign literature, and comparative literature courses and will be involved in the course in its entirety. The internship may also involve participating in the direction and production of a foreign language play.

The M.A. Thesis

The thesis is the culmination of the student's work in her/his critical and comparative studies of literature and related areas throughout the junior and senior years. Before the end of the senior year the student will present a thesis proposal to an advisory committee and to the colloquium for discussion and development. Ideally, an integrated program of studies from the beginning of the junior year will lead naturally to the selection and execution of a thesis topic during the final year by a student who will have developed his/her own area of interests and who will have acquired both sensitivity and critical awareness in the analysis of literary texts and problems.

Financial Aid

Some partial- and full-tuition remission scholarships will be available in the student's final year in the program. Several teaching assistantships will also be available to students involved in the teaching internship in their final year. All awards will be based upon need and merit.

COURSES

110. PROBLEMS IN COMPARATIVE LITERATURE.

Not offered, 1978-79.

This is an introductory course in comparative studies of literature from a problem-oriented perspective. The course will revolve around five major issues:

- 1) The Tragic View
- 2) The Challenge of Faith
- 3) Man the Measure
- 4) The Search for Identity
- 5) The Esthetics of Ambiguity

Readings will include selections form Sophocles, Job, Pico, Pascal, Pope, Nietzsche, Mann, Hofmannsthal, Rilke, Hesse, Kafka, Joyce, Bernanos, Beckett, and Cortazar. Recommended for freshmen and sophomores.

Full course.

Mr. Schatzberg.

118. MASTERPIECES OF WORLD LITERATURE.

This is a comparative survey of the development of European literature. Works to be studied, in English translation, have been chosen to illustrate the most important stages in the evolution of the Western understanding of the human condition. Reading during the Fall semester will include Homer's Odyssey, Virgil's

Aeneid, Dante's Divine Comedy, and Montaigne's Essays. Mr. Burke, Mr. King. Full course, Semester 1.

119. MASTERPIECES OF WORLD LITERATURE.

This course is a comparative survey of the development of European literature. Works to be studied, in English translation, have been chosen to illustrate the most important stages in the evolution of the Western understanding of the human condition. Reading during the Spring semester will include Cervantes' Don Quixote, Shakespeare's The Tempest, Goethe's Faust, Ibsen's The Masterbuilder, Kafka's The Trial, and Beckett's Endgame. Full course, Semester 2 Mr. Schatzberg.

120. THE EPIC JOURNEY.

Not offered, 1978-79.

The course is a close comparative examination of the epic as a recurring literary form with special attention to the various forms and functions of the hero's journey. Epic journeys may or may not have goals which are clear to the hero; they may be wanderings in unknown parts of the physical world or they may be representative of various types of spiritual striving and trial. Our task will be to define and articulate the various types of epic voyages and to relate their differences and similarities to the values of the societies which gave rise to them. Readings will consist mainly of primary literary texts with supplementary assignments in appropriate modern critical works; included in the reading will be selections (in English translation) from: Homer's Odyssey, Virgil's Aeneid, Petronius' Satyricon as an example of mock epic, Apuleius' Golden Ass, and Dante's Divine Comedy. Mr. Burke. Full course.

182. ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS.

This is a multi-disciplinary program which will approach Romanticism from the perspectives of philosophy, literature, music, and the visual arts. Part of a Humanistic Studies cluster which also offers credit in English, Music, and Philosophy Mr. Schatzberg, Mr. Blinderman, Full course, Semester 1. Mr. Castonguay, Mr. Overvold.

192. LANGUAGE IN SOCIAL CONTEXT.

This course takes a look at language from the perspective of sociolinguistics. The course will view spoken discourse as situated action whose meaning both reflects and creates the social context in which it takes place, whether in the everyday world or the world of the literary text. Starting with the notion of speech communities, the class will consider how verbal performance varies as individuals and groups assume different roles in different situations. Topics will include ritualized speech events, linguistic subcultures, male-female language, code-switching, bilingualism, and functions of language in the classroom. Discussion and reading will be supplemented by several short observational tasks. Limited to 20 students. See also Linguistics . and Education

210. THE LITERARY HERO.

Full course, Semester 2.

Ms. Nigrosh.

Not offered, 1978-79. As early as 1499, in European literature, a harlot becomes the heroine of a major work. The intrusion of characters of less than heroic stature is an innovation that merits some study. Beginning with the Celestina, and followed by a number of works including Lazarillo de Tormes and Moll Flanders, an attempt will be made to trace the increasing importance of characters of "piccola nazione" in the literary work. Heroic qualities yield to their opposite. The questions and problems that arise as a result of such a displacement will be the subject of analysis and

commentary. Full course.

Mr. Barbera.

215. MARXISM AND ART.

Not offered, 1978-79.

The course considers two sides of the relationship of Marxism to art: (1) how, as a philosophical foundation of political entities, Marxism affects the kinds of art produced under its sponsorship; and (2) the kinds of critical theories and strategies which, as an analytical tool, Marxism generates. The course presents a broad survey of Marxist considerations of art and literature. Among the topics discussed are: the alternation of cultural repression and "thaw," the historical development of art theory from Marx to the present, Stalinism and the distortion of the human image in Marx, the theory and practice of socialist realism, the critique of modernism and formalism, and the alienation of the artist in contemporary capitalist and socialist society. A basic acquaintance with both the classics of Marxist thought and the fundamentals of literary and art criticism is presupposed. Full course. Mr. Hughes.

225. POLITICS AND THE NOVEL. Not offered, 1978-79. This is a study of the relationships between private imagination and social consciousness; the structure of Idea in a novel; tensions of political and literary language; revolution as nostalgia. as heroic possibility, as dream and as nightmare. Readings will include Diderot, Rameau's Nephew; Stendhal, The Red and the Black; Dostoyevsky, The Possessed; Malraux, Man's Fate; Doris Lessing, The Golden Notebook; Robert Penn Warren, All the King's Men. Reference will be made throughout the semester to relevant historical and theoretical texts. Students will be expected to develop a research project on the subject of the course as it relates to their particular field of interest.

Full course. Ms. Kaufmann-McCall.

226. EROS AND FEMINISM. Not offered, 1978-79. The course studies the meaning of Eros from an interdisciplinary perspective, exploring problems and creative possibilities in the tension between our need for union and our need for separateness. Emphasis will be on the feminist effort to transform traditional notions of love, sexuality, and the meaning of private life. The course is intended as a workshop for upperclass and graduate students. Each student will be expected to give an oral report in her or his particular discipline, to be developed into a research project. Students will also be asked to keep a journal, recording impressions of class discussion and reading in light of their own experience. Texts will include Plato, Symposium; Erich Neumann, Amor and Psyche; Women and Analysis (essays by Freud, Emma Jung, Horney, Mitchell, and others); Engels, Origins of the Family; Kate Chopin, The Awakening; D.H. Lawrence, Lady Chatterley's Lover; John Barth, Chimera; Isadora Duncan, My Life; Emma Goldman, Living My Life; feminist essays on love by Goldman, Beauvoir, Greer, Firestone, Helene Cixous. Prerequisite: permission of instructor. Full course. Ms. Kaufmann-McCall.

230. ELEMENTS OF DRAMA. Not offered, 1978-79. The course explores ways of approaching the dramatic text based

on the conditions and problems peculiar to the stage. Through the study of representative plays from major dramatic periods, the course will investigate the nature of such concepts of dramatic analyses as Plot, Character, Dialogue, and Enactment as well as such elements of dramatic aesthetics as Tempo, Mode, Image, and Sequence of Impressions. The particular nature of the points of view of playwright, director, actor, and spectator will be investigated. Full course. Mr. Spingler.

235. PROBLEMS IN DRAMA: MYTH AND STRUCTURE.

Not offered, 1978-79. A study of the ways in which myth is articulated through specific dramatic structures. The peculiar character assumed by myth when it is embodied in the theatre will be the subject of analysis and discussion. It will concentrate on myth not as familiar and ancient story but as the contemporary and commonly, if sometimes subconsciously, held beliefs of a culture. Plays for analysis will be chosen from the following: Aeschylus, The Eumenides, Euripedes, Hippolytus, O'Neill, Desire Under the Elms, Mourning becomes Electra, Shakespeare, King Lear, Ibsen, Ghosts, Lorca, Blood Wedding, Ghelderode, The Chronicles of

Hell, Ionesco, Jack or the Submission. This course is part of the Integrated Program of Humanistic Studies. Full course. Mr. Spingler.

237. LANGUAGEINTHEATRE.

Not offered, 1978-79. This course examines the nature of theatrical communication: the problem of theatrical signs; relationship between text and gesture; differences and affinities between everyday talk and dramatic dialogue. Analysis and scene work concentrates on three plays:

Sartre's No Exit, Racine's Phedre, and Beckett's Play. Theatrical readings include Artaud's Theater and its Double and Grotowski's Towards a Poor Theater. Some work will be done with Labanotation.

Full course. Mr. Spingler.

240. ELEMENTS OF NARRATIVE.

This is a seminar which will explore such critical issues as the nature and psychology of form in western narrative literature, literature as representation and as creation; the relation between writer, text, and reader; conventions and strategies of rhetorical technique; structural approaches to the narrative text; the relevance of non-literary disciplines to the understanding of fiction. Permission of instructor required. Full course, Semester 1. Ms. Kaufmann-McCall.

251. SEMINAR IN LITERARY CRITICISM.

This core course is required of candidates in the B.A./M.A. Comparative Literature Program and is open to majors in Comparative Literature with the permission of the instructor. The course concentrates on three major modes of criticism; intrinsic. textural criticism; psychoanalytic criticism; and Marxist criticism. An attempt is made to define the areas in which each method is particularly useful and to explore the limitations of each. In order to unify discussion and critical papers that the students prepare, the work centers around a critical examination of Franz Kafka's The Trial and short stories, as well as the Letter to His Father and the Letters to Milena. Full course, Semester 2. Mr. Hughes.

256. COLLOQUIUM ON PROBLEMS.

This is an ongoing colloquium designed to consider the formulation and resolution of problems in comparative literature. It is open to and required of students accepted into the Comparative Literature Program.

Staff.

258. SELF, SYMBOL, AND VALUE.

This is an interdisciplinary cluster course, exploring the SELF AND ITS TRANSFORMATIONS, from the perspectives of philosophy, literature, and social science. In this course we shall examine such issues as: the attainment and dissolution of personal identity; the role of language in the formation of the self; selfhood and sexuality; the self in relation to fantasy and imagination; the self and its social context. The teaching-learning process will employ a variety of formats, ranging from joint sessions to intensive smallgroup discussions. Students who enroll should have completed some formal work in at least two of the three disciplines. Prerequisite: permission of instructor. Part of a Humanistic Studies cluster which also offers credit in Philosophy and Psychology. Full course, Semester 2. Mr. Kaplan, Ms. Kaufmann-McCall, Mr. Wright.

272. AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE.

This is a cluster course in which literature, geography, and philosophy provide integrated perspectives on the phenomenon of the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical, geographic, economic, literary, architectural, and other cultural dimensions of Hispanic, Anglo-American, and European notions of the city. Conducted in English. (See also Spanish 272.). Part of a

Mathematics 135. PATTERN RECOGNITION.
Refer to course description under Mathematics.
Full course, Semester 2.

Mr. Stubbe.

Computer Science

The courses in the area of Computer Science listed below are available to Clark students. They involve the use of the P.D.P. 11/70 Computer System located on campus. Other computer science courses are available through the Worcester Consortium.

101. INTRODUCTION TO COMPUTER PROGRAMMING.

This is an introductory programming course designed for students with no mathematics beyond high school algebra. The emphasis of the course will be on using the computer and the FORTRAN IV programming language as a tool for solving problems in any discipline. Students develop a working knowledge of character representation and manipulation, number representation and arithmetic, subroutines and functions, arrays and indexing, compilers and loaders, and most of all, structured programming techniques and algorithms that make programming easier.

Full course, Semesters 1, 2.

Mr. Larson.

102. COMPUTER APPLICATIONS.

Advanced topics in computer use are covered including searching and sorting, file design, recursion, lists, stacks, and queues.

Several projects requiring programming skill are assigned.

Prerequisite: Computer Science 101. or permission of instructor.

Full course, Semester 1.

103. INTRODUCTION TO COBOL PROGRAMMING.

The concepts of Cobol, today's most widely used programming language for business applications, are introduced. The student is expected to complete a number of programming assignments during the course. Prerequisite: Computer Science 101. or permission of instructor.

Full course, Semester 2.

140. ASSEMBLER LANGUAGE PROGRAMMING.

Not offered, 1978-79. This course is designed to enable the student to write substantive programs in assembler language for the P.D.P. 11/70. While a knowledge of a higher level language is not necessary, some familiarity with computer operations would be helpful. Otherwise, permission of instructor required.

Full course.

Staff.

201. ADVANCED COMPUTER PROGRAMMING.

This course is designed for students with previous programming experience. Each student is expected to select and carry to completion a project requiring substantive computer analysis in machine language, assembler, or any higher level language. Variable credit, Semesters 1, 2.

The following courses are recommended to students interested in computer science:

Mathematics 118. FORTRAN FOR SCIENCE STUDENTS.

Refer to course description under Mathematics.
Half course, First half, Semester 1.

Mr. Stubbe

Mathematics 119. ELEMENTARY NUMERICAL ANALYSIS.

Refer to course description under Mathematics.
Half course, Second half, Semester 1.

Mr. Stubbe.

Mathematics 120. LINEAR PROGRAMMING.

Not offered, 1978-79.

Refer to course description under Mathematics.
Full course.

Mr. Stubbe.

Economics

DEPARTMENT FACULTY

Roger C. Van Tassel, Ph.D., Professor of Economics, Department Chairperson

Howard W. Nicholson, Ph.D., Professor of Economics Attiat F. Ott, Ph.D., Professor of Economics E.C.H. Veendorp, Ph.D., Professor of Economics

George E. Hargest, M.B.A., Associate Professor of Economics, Emeritus

Robert C. Hsu, Ph.D., Associate Professor of Economics Frank W. Puffer, Ph.D., Associate Professor of Economics Maurice D. Weinrobe, Ph.D., Associate Professor of Economics Don M. Shakow, Ph.D., Assistant Professor of Economics

UNDERGRADUATE PROGRAM

The undergraduate program is designed to give the student a comprehensive grasp of the underlying principles and functions of economic institutions, and to develop habits of systematic thought. Goals of the Major

The rationale for economics majors can be stated briefly and simply. We believe economics offers a useful insight into a better understanding of fundamental human behavior in the decisionmaking process and a great variety of national economic issues. While we recognize that economics alone seldom gives answers, we also feel that there are few issues, at least in the social sciences, where the contribution of fairly formal economic analysis does not play a necessary role. There are obviously some advantages in an economics major besides a more broadly accepted educational value. It is a good preparation for law. business, and a number of other professional and not so professional careers. However, the emphasis of our program, and its rationale, is the educational one. The major in economics is clearly devised to help the student think and develop. The student takes a sequence of courses that should develop an appreciation of both the strengths and limitations of the subject. Finally, a student "who gets it all" in his first course, has really accomplished much of this objective. For almost everyone, however, some repetition, reinvolvement, and greater experience in additional and more advanced courses is required to develop the necessary mixture of confidence and competence.

Economics 10., Issues and Perspectives, is prerequisite for all "100"-level courses and for Economics 11., Principles of Economics. Economics 11. is prerequisite for "200"-level courses in the department. All majors in economics must take Economics 10., Economics 11., and Economics 205.1., and 205.2, Intermediate Theory. Economics 160., Statistics, is strongly recommended for all majors and required for some tracks. Students in their last three years must take no less than 50% nor more than 80% of their work in economics and courses appropriate to extended majors.

Under the extended major, students may elect a variety of options. These options are built on the common core of analysis required of all majors and "extend" to include a coherent program of courses offered within the department and in related departments. Among the options are: pregraduate, business, political economy, development, prelaw, environmental affairs, and science, technology and society.

The department offers two separate honors programs.
Selected students may engage in independent study off-campus for a semester and summer, preferably during the junior year.
These students work for business firms or government agencies in

applied economic research. A semester's credit is awarded. In addition there is an on-campus program. Juniors in their second semester take an honors course and, as seniors, may continue and complete the honors program with the writing of a senior thesis.

Some courses may be offered only in alternate years. Detailed course descriptions are available at the department office and at the Registrar's Office.

GRADUATE PROGRAM

The University offers facilities for graduate study and research leading to the Master of Arts and Doctor of Philosophy in Economics and with the cooperation of the Department of Management, to the Master of Arts in Applied Economics.

Graduate students may elect to take a limited amount of work

in related courses offered by other departments.

Scholarships and fellowships are available for a limited number of well-prepared students. These appointments exempt their holders from tuition fees and some carry stipends in varying amounts. Several teaching assistantships are also awarded which enable graduate students to gain experience in undergraduate instruction. These carry remission of tuition and a cash payment, up to \$3,200 for part-time work (one-half).

MASTER OF ARTS PROGRAM

Students interested in the application of economics to operational situations in business and government are encouraged to enroll in the M.A. program in applied economics. This program is built around a core of economic theory and econometrics plus a choice of applied business fields, actual on-site research consulting experience and a thesis. With adequate prerequisites, full-time students can complete this program in one year.

Students enrolled in the Ph.D. program may be awarded the M.A. degree upon satisfactory completion of the three Ph.D. "special fields"; or, in the case of students who do not continue toward the Ph.D., upon satisfactory completion of an approved program of course work, the writing of an M.A. thesis and an oral examination.

A student should discuss her/his plans with the graduate student advisor on or before registration day and secure approval of his/her course program.

DOCTOR OF PHILOSOPHY PROGRAM

Two full academic years of graduate work, or its equivalent in part-time work, is necessary for admission to Ph.D. candidacy. One of these years must be spent in residence at Clark University. In residence is broadly defined as work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

All candidates for the Ph.D. in economics are required to demonstrate proficiency in Econometrics and Mathematical Economics, i.e., by passing designated courses offered in the department or, in the case of prior preparation, by passing a test

given by the department.

Each student in the Ph.D. program is required to demonstrate proficiency in Economic Theory. The Economic Theory requirement includes Micro-theory, Macro-theory, and the History of Doctrine. Use of mathematics may be required in the examination in Economic Theory. The student satisfies the Economic Theory requirement by passing course examinations usually at the end of the first year of graduate study.

Upon completion of Economics Theory and the three special fields, the student is admitted to candidacy for the Ph.D. These fields may be selected from among the following: Monetary Economics, Public Finance, Industrial Organization, International Trade, Comparative Economic Systems, Econometrics, Advanced Theory, or one field selected from related subjects. If

Econometrics or Advanced Theory is selected as a special field. the level of performance required is substantially higher than the general requirement in Econometrics and Economic Theory for all Ph.D. candidates. The choice of fields must be cleared in advance with the graduate student advisor. Not all graduate field courses are offered each year. Normally three field courses are offered

Soon after having completed the field requirements, each student is expected to develop a written prospectus of his/her dissertation, and then to make a presentation before an informal conference with the dissertation committee demonstrating both the extent of knowledge of her/his dissertation field and the feasibility of the proposed topic.

Upon completion of the dissertation in a form acceptable to the committee, the candidate will make a copy of the dissertation available to the department, the staff, and graduate students in the department. After a period of approximately two weeks, to permit a wider reading of the dissertation within the department, the candidate will present the dissertation at a seminar open to all staff and graduate students in the department. Final approval of the dissertation will be granted by the committee after consideration of any suggestions of changes or challenges arising from the final seminar. Unless the dissertation is completed and defended within five calendar years from admission to candidacy, the certifying examinations must be repassed.

The dissertation must be a real contribution to knowledge, based upon independent research, convincingly presented, and acceptably written. Published articles may be accepted by the department instead of a dissertation.

Some teaching experience at Clark or such other teaching as the department may regard as equivalent is prerequisite to the doctor's degree.

COURSES

10. ISSUES AND PERSPECTIVES.

By analysis of important current policy issues, the student is introduced to the vital contribution economics can make to systematic thought and understanding. Rather than emphasizing economic theory, the course begins with issues in the social sciences that are of obvious and important concern. From a study of issues the course proceeds to show how development and use of some very basic economic concepts can aid materially in the analysis. Open to freshmen. Multiple sections.

Full course, Semesters 1, 2, Mr. Van Tassel, Staff,

11. PRINCIPLES OF ECONOMICS.

This is an introduction to economic analysis. This course develops a basic set of economic concepts utilized in the "200"-level courses offered in the department. Basic elements of price and income theory are emphasized. Policy questions are treated both to reinforce concepts and to illustrate applicability of the analysis. Open to freshmen. Prerequisite: Economics 10. Full course, Semesters 1, 2, Mr. Veendorp.

108. INTERNATIONAL FINANCIAL DEVELOPMENTS.

Not offered, 1978-79.

This course traces the development, roles, importance, and problems in international finance. A multinational world requires an efficient international financial system. Yet, design of a system that permits orderly international trade and retains national identity and autonomy in vital areas of policy is a difficult and incomplete task.

Full course. Mr. Van Tassel.

113. MONETARY ECONOMICS: THEORY AND POLICY.

The theory of money and its role in the modern economy is examined. Determinants of the supply of money and analysis of the role of monetary policy in stabilization policy. Full course, Semester 1. Mr. Weinrobe.

115. PUBLIC EXPENDITURES.

This course examines issues of priorities in the composition and size of public expenditures. Evaluation of the federal budget (expenditures and revenues) according to criteria of efficiency, equity, and administrability. Examination of goals of employment, price stability, and growth and role of fiscal policy instruments in achieving them.

Full course, Semester 2.

Ms. Ott.

121. INTRODUCTION TO ACCOUNTING PRINCIPLES.

This is a first course in financial accounting designed to meet academic needs of: (a) students who will take only one course in accounting to obtain a good understanding of financial information such as that which appears in standard financial reports, (b) students who will be interested in work in managerial accounting as well as financial accounting, (c) students who will continue the study of accounting in intermediate and advanced courses. For certain programs this course may be considered the equivalent of Management 201., Introduction to Accounting, which is desirable but not a prerequisite for this course. Full course, Semesters 1, 2. Mr. Nicholson.

122. CORPORATE FINANCE AND INVESTMENT PRINCIPLES.

This is a course in Introduction to Principles of Business Finance and Investment. The course begins with an analysis of the finance function in business and concludes with a study of investment principles viewed from the standpoint of both the firm and the investing public. Topics covered in connection with the finance function include factors affecting need for funds and sources of funds. Study of investment principles focuses on appraisal of capital investment opportunities and the nature and functioning of capital markets such as the organized exchanges for stocks and bonds. Prerequisite: Economics 121, or permission of instructor. Full course. Semester 2. Mr. Nicholson.

123.4 SPECIAL PROBLEMS: ENVIRONMENT AND ENERGY. Not offered, 1978-79.

This is an analysis of major problems that have arisen as a result of environmental concerns and the energy shortage. Analysis will be placed on problems stemming from external diseconomies, supply demand disequalibria, and technological change Full course. Mr. Shakow.

124. ECONOMIC THOUGHT AND MODERN CIVILIZATION.

This new course is broadly interdisciplinary. It emphasizes the relationship between economics and related areas, such as philosophy, ethics, political science, sociology, mathematics, and statistics. Beginning from the perspective of economic thought, the course traces developments in economic analysis, showing how economic analysis has both affected and been affected by the contact with other disciplines. The course considers how modern economic thought has come to diverge in essential aspects from the ideas of social philosophers like Adam Smith and Karl Marx. and emphasizes what scientific economic analysis does and does not enable us to understand about modern social problems and issues.

Full course, Semester 1.

Mr. Nicholson.

126. PUBLIC POLICY TOWARD BUSINESS.

This course examines the various types of industrial organization, the degrees of monopoly in competition, and the development of public policies that affect business. Among issues traced will be the development of anti-monopoly regulation, consumer protection, and public utilities. Business performance and government regulation will be related to criteria from Economic Theory.

Full course, Semester 2.

Mr. Nicholson.

155. THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT.

This course will be a review of political economic problems associated with such natural resources as agricultural land,

energy goods, and minerals — as well as a resource common to all of us, our natural environment. Typical issues to be analyzed include the assessment of environmental impacts within a market oriented economy; the potential role of international cartels in resource allocation, and the assessment of nuclear generation from an economic standpoint. Mr. Shakow. Full course, Semester 2.

160. INTRODUCTION TO STATISTICAL ANALYSIS.

This course examines basic concepts and techniques of statistical method in economic analysis: descriptive statistics; permutation and combination; an introduction to probability theory; sampling distribution; standardized normal distribution and other related distributions; simple and multiple regression; simple forecasting and statistical decision-making. Full course, Semester 1.

Mr. Puffer,

176. COMPARATIVE ECONOMIC SYSTEMS.

Not offered, 1978-79.

Many different political and economic systems exist in the world. Most systems are continually undergoing changes that gradually, but importantly, affect their performance. This course surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Mixed economies, market socialist and centrally planned economies are examined. Full course. Mr. Hsu.

177. CHINESE ECONOMY.

This course is a comprehensive survey of the Chinese economy its development, institutions, and policies. The major topics to be covered are: (1) The Economic Heritage; (2) Maoist Economic Development: Ideology and Strategy; (3) Rural and Agricultural Development: (4) Industrial Development: (5) Planning and Resource Allocation; (6) Human Resources: Population, Health Care, Education; (7) International Economic Relations. Full course, Semester 1. Mr. Hsu.

205.1. MICROECONOMIC THEORY.

The objective of the course is to describe and analyze how a market-oriented economy functions in answering the five basic economic questions. These are: (a) What commodities to produce? (b) How much of each to produce? (c) What productive techniques to use and how to provide incentive? (d) How to distribute the output among the various members of society? (e) What provision to make for the future? Interspersed with the theory, the course contains frequent examples that demonstrate the use of microeconomics in solving problems faced by the decision-making unit in both the private and public sectors. Full course, Semester 1. Mr. Veendorp.

205.2. MACROECONOMIC THEORY.

This course focuses mainly on the forces that affect the overall performance of the economy. It is a study of the determinants of economic activity (such as consumption, investment, government purchases, and exports); measures of economic performance (such as the level and rate of growth of national income and product, the level of employment and unemployment, the general price level, and the nation's balance of international payments). In addition, the course deals with specific, current, economic problems facing the U.S. economy, discusses public policies instituted to deal with them, their success or failure, and the repercussions of some of these policies on world economies. Full course, Semester 2. Mr. Weinrobe.

207. INTERNATIONAL ECONOMICS.

This course applies and develops concepts of economic theory to such questions as: determinants of international and regional specialization and trade, the theory of tariff intervention, the balance of payments, adjustment forces and disequilibria, and application of theory to important issues of international trade. Mr. Van Tasser Full course, Semester 1.

209. MARXIST ECONOMIC THEORY.

This is an introduction to Marxist Economic Theory. A comparison will be made between the development of Marxist and neoclassical economic analysis. Prerequisite: Economics 11. and permission of

Full course, Semester 2. Mr. Shakow

224. HISTORY OF ECONOMIC DOCTRINE. Not offered 1978-79. Economic thought profoundly influences modern society even when it is not well understood. Policy-makers are affected by economic thought in ways which are not always fortuitous. The great English economist, Lord Keynes, has written, "Madmen in authority who hear voices in the air are distilling their frenzy from some academic scribbler of a few years back." This course is a survey of developments in economic thought. It traces the sense in which economics has evolved as a science - a method of thinking clearly about complex and important social problems. Attention is also paid to the influence of economic thought on noneconomists — on policy-makers and general citizens. Full course. Mr. Nicholson.

228. ECONOMIC DEVELOPMENT.

This course will examine the major theories of economic development, the major problems confronting the less developed countries, and the policies and strategies appropriate for economic development. The purposes are to show the relevance of economics in international development, to promote an understanding of the problems of the less developed countries. and to help provide analytical skills useful to students interested in a career in international development. Full course, Semester 1.

231. ELECTRICITY PLANNING AND DECISION-MAKING.

The course examines how planners, regulators, and citizen groups deal with the economic and environmental issues surrounding electricity production. Background is provided on such topics as the physical nature of power supply systems, the organization of the utility industry, and the system of legal controls established by government. Planning questions such as the projection of future demand, the choice among different technologies, the siting of major generation and transmission facilities, and the pricing of electricity are analyzed from both an economic and an institutional standpoint. Actual cases of electricity decision-making such as the recent rulings on the Boston Edison rate request or the Seabrook nuclear power plant proposal are used to bring key issues into focus. Prerequisite: permission of instructor. (See also S.T.S. 231.) Full course, Semester 1. Mr. Shakow, Mr. Ducsik.

250. ECONOMICS OF EDUCATION.

This course is an economic analysis of the education industry. Among topics examined are: rate of return on educational investment, composition of supply and demand, problems in manpower planning, organization, and the varied roles and rationales for government intervention in education. Prerequisite: Economics 11.

Full course, Semester 2. Mr. Van Tassel.

260. INTRODUCTION TO MATHEMATICAL STATISTICS.

This is an introduction to the theory of statistics from the managerial point of view. Economics 271, should be taken concurrently.

Full course, Semester 1. Mr. Shakow.

265. BASIC ECONOMETRIC THEORY.

This course is an introduction to econometric methods; statistical inferences and testing hypotheses; model-building technique and theoretical justification of the model and the estimation method used. Various estimation methods will be presented and evaluated in terms of their performance and validity in economic empirical studies.

Full course, Semester 2. Mr. Shakow.

266. APPLIED STATISTICS AND **ECONOMETRICS.**

Not offered, 1978-79. This course studies integration of statistical concepts with the estimation and forecasting of economic variables: estimation of production function; cost analysis; quality analysis; linear programming; input-output method; estimation of aggregate supply and demand function; model for national economy. Prerequisite: Economics 265.

Full course. Mr. Shakow.

269. ECONOMIC HISTORY.

Not offered, 1978-79. The objective of this course is to provide an introduction to the economic history of the developed capitalist countries. Full course. Mr. Shakow.

271. INTRODUCTION TO MATHEMATICAL ECONOMICS.

An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: permission of instructor.

Variable credit.

Full course, Semester 1.

Mr. Veendorp.

280. JUNIOR HONORS.

Designed to assist honors candidates in integration of the field. Full course, Semester 2.. Mr. Nicholson.

281. SENIOR HONORS.

Variable credit. Semesters 1.2.

Mr. Nicholson.

282. HONORS.

Eligible students selected by the department may work off-campus for a summer and a semester as junior professional economists in business, government or industry, and receive academic credit. Variable credit.

Semesters 1, 2,

Full course.

Mr. Nicholson.

301.1. ECONOMIC THEORY.

Full course. Semester 2.

Mr. Veendorp.

301.2. MICROECONOMICS.

Not offered, 1978-79. Mr. Veendorp.

302.1. ECONOMIC THEORY.

Full course, Semester 1.

Ms Ott

302.2. MACROECONOMICS.

Full course, Semester 2.

Mr. Weinrobe.

313. SEMINAR IN MONETARY ECONOMICS.

Not offered, 1978-79. Full course. Mr. Weinrobe.

325. PUBLIC FINANCE SEMINAR.

Semesters 1.2.

Ms. Ott.

326. INDUSTRIAL ORGANIZATION SEMINAR.

Not offered, 1978-79.

Full course.

Mr. Veendorp.

327. INTERNATIONAL TRADE SEMINAR.

Full course.

Mr. Van Tassel.

328. ECONOMIC DEVELOPMENT.

Full course, Semesters 1, 2.

Mr. Hsu.



Education

DEPARTMENT FACULTY

Helen J. Kenney, Ed.D., Professor of Education; Department Chairperson

David S. Zern, Ph.D., Associate Professor of Education, Adjunct in Psychology

Thomas G. Carroll, Ph.D., Assistant Professor of Education Marcia A. Savage, Ed.D., Assistant Professor of Education, Dean of the College

William E. Topkin, Ed.D., Assistant Professor of Education, Dean of Students

Maida Follini, Ph.D., Visiting Lecturer in Special Education William C. Kvaraceus, Ed.D., Professor of Education (Affiliate) Eleanor R. Moosey, Ed.D., Assistant Professor of Education (Affiliate)

Gaston Schaber, Ph.D., Director, Pedagogic Institute, Luxembourg, Professor of Comparative Education (Affiliate) With the cooperation of: Roger C. Van Tassel, Ph.D., of the Department of Economics Virginia Mason Carr, Ph.D., and James Macris, Ph.D., of the Department of English

Donald W. Krueger, M.F.A., of the Fine Arts Department Walter Schatzberg, Ph.D., of the Department of Foreign Languages and Literature

Duane S. Knos, Ph.D., of the Graduate School of Geography Richard B. Ford, Ph.D., of the Department of History William A. Koelsch, Ph.D., of the Department of Geography and History

Warner Burke, Ph.D., of the Department of Management Robert N. Beck, Ph.D., of the Department of Philosophy Edward E. Sampson, Ph.D., of the Department of Sociology Anthony W. Hodgkinson, of the Department of Visual and Performing Arts

Clinical Instructors in Education: Hessa Miller, M.A., Kenner Myers, M.S., and Margaret C. Vogel, M.A.

UNDERGRADUATE PROGRAMS

Undergraduate education constitutes a major part of the work of the department. In conformity with its policy of emphasizing the importance of liberal arts training as a basis for educational practice, the department offers its courses and programs as electives, not as an undergraduate major. During their first two years at Clark, students in education lay a broad foundation of scholarship in the areas in which they wish to specialize. However, a limited number of education courses are available to freshmen and sophomores to provide general background and to lead into the organized programs given at the junior and senior year levels.

The various undergraduate programs are designed for students interested in preparing for careers as educators in traditional and non-school settings such as family life institutes, day care centers, youth organizations, courts, clinics, hospitals, correctional and rehabilitation institutions, and social service agencies, etc. In conjunction with various academic departments these programs are provided through integrated course work and field experiences in the following internship modules.

1) Internship Module in Elementary/Early Childhood Education.

- Internship Module in Secondary Education in various subject fields and in Special Subjects such as Art, Theater, Media Studies, Music, and Bilingual Education.
- 3) Internship Module in Special Education.
- 4) Educational Clinician Internship Module.

In addition, modules may be individually designed for students interested in the new opportunities for educators emerging in the varied fields of human services. Selected components of the special education sequence may be taken as part of the Clark program at the Pedagogic Institute, Luxembourg.

The internship programs serve as a transition to professional study at the graduate level and for entry into beginning teaching and specialist positions. The elementary level teacher education program has been approved by the Interstate Certification Compact, a legally based certification reciprocity agreement between Massachusetts and 31 other states and the District of Columbia. The special education sequence, taken as an extension of the regular teaching module, leads to approval in Massachusetts for teaching children with special needs. The secondary level teaching module leads to certification in Massachusetts.

The internship modules and sequences are limited to juniors and seniors who have completed major requirements at a satisfactory level of scholarship. The decision to elect one of the organized programs must be made before the end of the sophomore year, be approved by the Department of Education, and for secondary school and special subject teaching, must be approved in addition by the appropriate academic department for competency in subject matter areas.

Students interested in professional education are encouraged to consult with some member of the department early in their careers at the University to discuss overall program planning.

GRADUATE PROGRAMS

The department offers one program leading to the degree of Master of Arts in Education and another leading to the degree of Doctor of Education. Both graduate programs of study are primarily oriented toward training in those educational activities and services required to meet the special needs of learners who are different because of their individual abilities or because of their socio-cultural or economic backgrounds.

MASTER OF ARTS IN EDUCATION

This degree program is designed to extend the professional training of experienced educational practitioners. The program may be used to enrich the general theoretical background relevant to a candidate's area of educational practice and to develop new professional skills in individually tailored program concentrations. Master's candidates concentrate their work in areas where there is depth in course offerings available through the faculties of the Department of Education and cooperating academic departments in the University. Clusters have been worked out in special education, early childhood education, academic subject fields, environmental education, bilingual and multicultural education.

Admission Requirements

In addition to the general Graduate School admission requirements, a personal interview is usually required by the Department of Education in order to determine the fit between the program resources and a candidate's goals and interests.

Degree Requirements

The course of study consists of a minimum of eight full course units with an additional requirement to be completed by one of three options: (a) an acceptable thesis, (b) the master's seminar in which an independent major paper will be prepared and presented to fellow graduate students and members of the staff, or (c) two additional full courses.

The passing of a final oral examination is required of all candidates.

DOCTOR OF EDUCATION

The Doctor of Education is an advanced professional degree program for the experienced educational practitioner of proven ability who expects to assume high-level responsibility in administrative, planning, training, and evaluation roles in schools, government agencies, private organizations, or institutions of higher learning. The program has two major components: (1) a core curriculum aimed at imparting a basic understanding of the analytic techniques, the social and behavioral dynamics and determinants, and the management principles that will contribute to the development of new educational concepts and solutions to problems facing the field of education, and (2) a specialized concentration aimed at developing in-depth understanding of a chosen substantive area—for example, education of the exceptional learner, bicultural and multicultural education, school psychology-for the purpose of developing, evaluating, and implementing effective educational programs.

The small and select group of graduate students insures the advantages of program flexibility with much opportunity for close and continued contact between staff and students. All program designs have a significant degree of individuality, reflecting the past training and experience, and the present goals of students. In general, the program consists of a combination of formal course work, independent study, and internships within the basic orientation of the core curriculum and selected area of concentration. The individual study plan is developed within a framework of departmental, University, and field resources.

Admission Requirements

Admission to the doctoral program requires the completion of an acceptable baccalaureate and master's degree, either at Clark or elsewhere. Students who obtain their master's degree with the department at Clark, and who wish to continue their doctoral studies in the department, must apply for continued study at the doctoral level.

A candidate must give satisfactory evidence of aptitude and capacity for graduate study as reflected in academic achievement and aptitude tests (either the Miller Analogies or the Graduate Record Examination). Professional experience, which demonstrates a high level of competence and leadership ability, is also required.

Degree Requirements

Minimal requirements for candidates at the doctoral level demand at least two years of graduate study beyond the master's level, one year of which must meet the University's residency requirement. Courses completed elsewhere will be evaluated and accepted in transfer if shown to be comparable in content and level of training to those required in the program. A doctoral candidate must pass comprehensive examinations at the end of course work and complete a doctoral dissertation.

COURSES

88. DIRECTED READING-UNDERGRADUATE.

Variable credit. Semesters 1, 2.

Staff.

150. SEMINAR IN MATHEMATICAL CURRICULUM METHODS AND MATERIALS.

Methods and materials are taught: (1) to acquaint the student with various methods of approach for theories on teaching math on the secondary school level, and (2) to give the student a pre-student-teaching experience. While conducting mini-courses in math in local high schools, the seminar discusses articles that are concerned with teaching math, the relationship of the theories to the practice, the problems that are encountered within the minicourses, and methods of teaching math. Various field trips and guest speakers will be included.

Full course, Semester 1.

192. LANGUAGE IN SOCIAL CONTEXT.

Refer to course description under Linguistics and Comparative Literature 192.

Full course, Semester 2.

Ms. Nigrosh.

201.1. EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF CHILD DEVELOPMENT.

This course examines principles of child development with emphasis upon maturation and learning in the elementary school years. Recommended for those planning to take Internship Module.

Full course, Semester 1.

Mr. Zern.

201.2. EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF ADOLESCENT DEVELOPMENT.

Principles of adolescent development are examined with special emphasis upon learning and personality development in the secondary school years. It is recommended for those planning to take the Internship Module.

Full course, Semester 2

Staff.

201.3. EDUCATIONAL PSYCHOLOGY: CONTEMPORARY ISSUES IN EDUCATION.

This is an introduction to some contemporary issues in education and an overview of theoretical and research literature which may give insight into developmental and educational processes. The emphasis will be on "why" (within the framework of educational settings) rather than "how to." It is recommended for those planning to take the internship module and who are working with the younger child.

Full course, Modular Term.

Mr. Zern.

201.4. EDUCATIONAL PSYCHOLOGY: SPECIAL TOPICS IN SECONDARY EDUCATION.

Individual or small groups of students will study, discuss, and report on topics of central importance to education during the

adolescent years. Variable credit. Semesters 1, 2.

Ms. Savage.

202. WORKSHOP IN SMALL GROUP AND INTERPERSONAL PROCESSES: ADVANCED TOPICS IN SOCIAL

PSYCHOLOGY. Not offered, 1978-79.

Refer to course description under Sociology 205b. Full course.

Mr. Sampson.

205.2. EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Refer to course description under Geography 205.2.

Full course, Semester 1.

Mr. Knos, Staff.

206. AUTOBIOGRAPHY WORKSHOP.

Refer to course description under Geography 206.

Half course, Semester 1.

Mr. Knos, Staff.

209. SIMULATION AS A LEARNING DEVICE.

Refer to course description under Geography 209.

Full course, Semester 2.

Mr. Knos.

211. FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING.

A dual focus is on: (1) illustration and analysis of various cognitive and social interpersonal models of human behavior in the classroom setting, and (2) introduction to and development of skills involved in systematic observational methodologies, with the classroom as the natural setting in which the work is done. Students carry out a series of assigned observational tasks and execute their own individual projects.

Full course, Semester 2.

Mr. Zern.

216. EARLY DEVELOPMENTAL PROCESSES:

THEORY AND PRACTICE. Not offered, 1978-79.

This is a selective consideration of some basic theoretical models of normal human development, analyzing their implications for understanding the determinants of behavior in infancy and early childhood, and their consequences in later development, particularly in terms of various developmental deviations. Students will observe normal and "special" children of various ages (infancy through adolescence) in various home and institutional settings. Classroom discussions and assignments will focus on relating the theory to the behaviors observed in the field.

Full course.

Mr. Zern.

219. PSYCHO-EDUCATIONAL ASSESSMENT AND INDIVIDUALIZED INSTRUCTION.

This course centers on: (1) psycho-educational diagnostic techniques, including both individual and standardized group tests that would be used to gather relevant data on children with special needs; and (2) the analysis and synthesis of psycho-diagnostic data to formulate an effective, individually appropriate educational

Full course, Semester 2.

Ms. Holland, Staff.

222. ATTENTION AND ATTACHMENT: ISSUES IN INFANT CARE.

Not offered, 1978-79.

The attention processes and the attachment behaviors of the infant will be emphasized in this course on the first years of life. Both theoretical and research literature will be analyzed. Direct observations of infants and relevant films will also be utilized. Full course.

Mr. Zern.

230. CREATIVE ARTS IN EDUCATION. Not offered, 1978-79.

This is a seminar-workshop course, exploring and developing specific techniques for using music, visual experiences, and drama as tools to help children learn.

Full course. Academic departments, Staff.

234. FIELD PROJECTS.

This course provides individualized and extended experiences in a wide variety of agencies and institutions involving the education and comprehensive care of children and youth. Supervision is provided by the University and field agency personnel; combines related seminars and conferences as a basis for critical analysis of the experiences within the context of applied theory and practice.

Variable credit.

Semesters 1, 2, Modular Term.

Ms. Holland, Staff.

234.1. FIELD PROJECTS: SPECIAL EDUCATION.

This is an introductory practical experience in a school or agency setting, working under supervision with children with special needs. Students will be placed in resource rooms, special classrooms, and rehabilitation agencies, where they will tutor individuals or small groups, under the direction of a teacher or staff member. Prerequisite or corequisite: Education 291. Variable credit.

Semesters 1, 2, Modular Term.

Staff.

234.2. FIELD PROJECTS: PRE-INTERNSHIP MODULE EXPERIENCE.

This is an introductory practical experience in a regular school setting, required for Education 287.

Variable credit.

Semesters 1, 2.

Ms. Miller.

241. SEMINAR: HISTORY OF AMERICAN HIGHER EDUCATION.

Not offered, 1978-79.

Refer to course description under History 246. Full course.

Mr. Koelsch.

243. SEMINAR IN LEARNING PROBLEMS AND INDIVIDUALIZED EDUCATIONAL PLANNING.

An in-depth study of learning problems resulting from specific learning disabilities, emotional disturbance, and intellectual impairment; educational prescription and instructional planning to meet specific needs. Prerequisite: permission of instructor. Limited to seniors.

Full course, Semester 2.

Ms. Follini.

244. LANGUAGE AND SPEECH: DEVELOPMENTAL DEVIATIONS.

This course traces the normal course of language and speech development in the young child, with attention to deviations in the development of communication associated with handicapping conditions.

Half course, Semester 1.

Ms. Follini.

250. ECONOMICS OF EDUCATION.

Refer to course description under Economics 250.

Full course, Semester 2.

Mr. Van Tassel.

252. THE CULTURAL CONTEXT OF EDUCATION.

Treating education as a process of communication, this course will review cross-cultural studies by anthropologists who seek to explain different patterns of child rearing and schooling in terms of the cultural contexts in which they occur. Readings will include studies of societies in Africa, Latin America, Native North America, and the United States.

Full course, Semester 1.

Mr. Carroll.

260. LINGUISTICS AND LANGUAGE LEARNING.

Refer to course description under Linguistics 260. Prerequisite or corequisite: Linguistics 114., for which substitutes may be available if the instructor is consulted well in advance; permission of instructor. Offered in alternate years.

Full course.

Staff.

261. TESTS AND EVALUATION: THEORY AND TECHNIQUES OF MEASUREMENT AND APPRAISAL.

The student gains a basic understanding of measurement

concepts (validity, reliability, standardization, descriptive statistics) and a familiarity with techniques of achievement and ability assessment. Each student practices administering group and individual psycho-educational techniques and procedures. Full course. Semester 1. Staff.

262. TESTS AND EVALUATION: PRACTICA.

The course provides supervised psycho-educational diagnostic and assessment experiences in schools or child welfare agencies. Prerequisite or corequisite: Education 261. Full course, Semesters 1, 2. Staff.

263. INDIVIDUAL ASSESSMENT OF MENTAL ABILITIES.

This course involves theory and intensive experience in administering and interpreting individual tests of intelligence, with major emphasis on Stanford-Binet Revision and Wechsler Intelligence Scales. It emphasizes mechanics of administration and interpretation for use of test results in educational settings. Prerequisite or corequisite: Education 261. Full course, Semesters 1, 2, Staff.

265. TEACHING ENGLISH AS A SECOND LANGUAGE.

Refer to course description under English 295. Full course, Semester 2.

Mr. Macris.

272. INTERNSHIP TEACHING.

This is an intensive period of observation and teaching in a secondary level or special subject field in which the student plans to teach. Individual supervision is given by the academic department and by a teacher in a cooperating school. Prerequisite: permission of both the academic and education departments. One and one-half course, Semesters 1, 2,

Academic departments, Staff, Cooperating teachers.

272. (1-8). SEMINAR IN STUDENT TEACHING.

This is a conference course running concurrently with student teaching at the secondary level and in special subject fields. The seminar aims to develop the students' problem solving ability as it relates to the specific issues and concerns of the classroom.

272.1. Seminar in Teaching English.

272.2. Seminar in Teaching Foreign Language.

272.3. Seminar in Teaching Social Studies.

272.4. Seminar in Teaching Science.

272.5. Seminar in Teaching Art.

272.6. Seminar in Teaching Theater.

272.7. Seminar in Media Studies.

272.8. Seminar in Teaching Music.

Half course, Semesters 1, 2.

Academic departments.

273. SEMINAR IN CURRICULUM AND METHODS IN MATHEMATICS TEACHING.

Full course, Semester 2.

Staff.

278. EDUCATION IN CHANGING SOCIETIES.

Treating education as a process of communication that may function to maintain or alter cultural patterns of behavior, this course will use cross-cultural studies to compare contexts in which education has promoted or inhibited natural social change. Implications drawn from these studies will then be used to examine attempts to employ education as a force to accelerate or control programs of planned social change. Readings will include studies of societies in Africa, Latin America, the United States, and

Full course, Semester 2.

Mr. Carroll.

279. SOCIAL PSYCHOLOGICAL THEORY: SMALL **GROUP AND INTERPERSONAL PROCESSES.**

Refer to course description under Sociology 291b. Full course. Semester 1.

Mr. Sampson.

282. INSTRUCTION AND CURRICULUM DEVELOPMENT: PRINCIPLES AND PRACTICE.

This course is an introduction to the fundamentals of the instructional process and curriculum planning in subject fields. Half course, First half, Semester 1. Staff.

282. (2-8). INSTRUCTION AND CURRICULUM IN SUBJECT FIELDS.

The course covers principles of curriculum development and teaching in specific and special subject fields.

282.2. Instruction and Curriculum Development in Foreign Languages.

282.3. Instruction and Curriculum Development in Social Studies.

282.4. Instruction and Curriculum Development in Science.

282.5. Instruction and Curriculum Development in Art.

282.6. Instruction and Curriculum Development in Theater. 282.7. Instruction and Curriculum Development in Media Studies.

282.8. Instruction and Curriculum Development in Music. Half course, Second half, Semester 1. Academic departments.

286. SEMINAR IN THE REHABILITATION OF THE HANDICAPPED CHILD.

(Formerly Education 289.2.) This is a review of the rehabilitation process from the identification of abilities and disabilities, through psychological, medical, social, and educational interventions, to help the individual maximize his/her potential. Half course, Semester 1.

Ms. Follini.



287. INTERNSHIP MODULE IN ELEMENTARY EDUCATION.

This integrated internship provides an intensive work-study experience in elementary schools and other educational agencies in the Worcester area. It involves theoretical course work; a full-time supervised experience in schools or in some other educational, welfare, or recreational agency; and related workshops, seminars, and conferences. The elementary module provides credit in the following areas; student teaching (two full courses including the professional teaching seminar) with three half-courses distributed to cover curriculum, methods, and materials of instruction in the basic elementary school program. Limited to seniors who will have completed major requirements and whose grade point average reflects high level of scholarship. Students contemplating internships must make application at the beginning of their junior year.

Three-and-one-half course, Semesters 1, 2.

Ms. Kenney, Staff, Cooperating teachers.

290. PHILOSOPHY OF EDUCATION.

This course examines the aims, processes, and materials of education, with special reference to the influence of philosophical ideas on educational problems.

Full course, Semester 1.

Mr. Beck.

291. DEVELOPMENTAL DEVIATIONS: LEARNING PROBLEMS AND EDUCATIONAL INTERVENTIONS.

This course is a survey of the various deviations from typical development, and an introduction to the field of special education. Special needs of children who are gifted, and those who have learning problems related to mental retardation, emotional disturbance, sensory and orthopedic impairments, specific learning disabilities, communication problems, and behavioral disorders will be studied. Observations in several special educational settings will be required, as well as a written term project. It is recommended that this course be taken concurrently with Education 234.1.

Full course, Semester 1.

Ms. Follini.

292. SEMINAR AND PRACTICUM IN SPECIAL EDUCATION.

The student works under the close direction of a cooperating teacher, for 15 to 20 hours a week in a special educational setting (resource room, special class, special agency). A concurrent weekly seminar considers specific learning problems and educational interventions appropriate to particular handicapping conditions such as mental retardation, specific learning disabilities, and emotional disturbance. Prerequisite: Education 234.1., Education 291., permission of instructor.

Full course, Semester 2.

Ms. Follini.

293. WORKSHOP IN SECONDARY ENGLISH CURRICULUM.

Refer to description under English 293.

Full course, Semester 1. Department of English staff.

294. MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH.

Refer to course description under English 294.
Full course, Semester 2. Department of English staff.

295. METHODS OF ART EDUCATION.

This is a practical, experiential introduction to art and design education materials, methods, and skills as applied to realistic classroom situations.

Half course, Semesters 1, 2.

Mr. Krueger, Staff.

296. PSYCHO-EDUCATIONAL CASE STUDIES.

This course considers psycho-educational assessment of the individual child with educational planning.

Full course, Semester 2.

Staff.

297. PATTERNS OF CHILD-REARING: A CROSS-CULTURAL ANALYSIS.

The course offers an analysis of various sub-cultural and cross-

cultural patterns of child-rearing, dealing with both similarities and differences within the human species. The materials for this consideration will be both theoretical (particular emphasis on Freud and F. Kluckhohn) and descriptive case studies such as Walden II, day care and higher education, and the kibbutz.
Full course.

Mr. Zern.

298. SUPERVISED STUDENT TEACHING IN SPECIAL EDUCATION.

(Formerly Education 289.) The student spends 10 hours a week for 14 weeks in a setting serving children with special needs. Following the previous student teaching experience, the student is now expected to show competencies on an advanced level and function with a high degree of responsibility. Prerequisite: Education 287.

Full course, Semester 2.

Staff, Cooperating teachers.

304. CURRICULUM AND INSTRUCTIONAL SYSTEMS.

This course considers the theoretical bases of curriculum and examines various instructional methodologies in detail.

Full course, Semester 2.

Ms. Kenney.

305. COGNITIVE FACTORS IN THE EDUCATIVE PROCESS.

This is a selective review of major theories of cognitive functioning focusing on dynamics within the individual. Piaget, Skinner, R. White, Freud's secondary processes and Wertheimer will be studied.

Full course, Semester 2.

Dr. Zern.

312.1. INTRODUCTION TO THEORIES OF COUNSELING.

Emphasis will be upon the theory and methodology of counseling and upon the management of typical counseling problems. The diagnosis and referral of behavior disorders and related personality maladjustments will be considered. Case material will be presented and analyzed.

Full course, Semester 1.

Mr. Topkin.

312.2. COUNSELING PRACTICUM.

Students will experience field placement in Worcester area schools and weekly seminars. Relevant readings will be required. Prerequisite: Education 312.1.
Full course, Semester 2.

Mr. Topkin.

319. ADVANCED PSYCHOEDUCATIONAL ASSESSMENT AND DIAGNOSIS: THEORY AND PRACTICE.

The course is an application of psychological and educational evaluation procedures in the assessment of children with special needs. Students receive practice in the use of observational, interview, and individual evaluation techniques. The course includes identification of abilities and disabilities and relevance of diagnosis to prescriptive education.

Full course, Semester 1.

Ms. Follini.

320. CASE STUDIES IN PSYCHOEDUCATIONAL PLANNING AND PROGRAMMING.

The course considers the integration of multi-disciplinary assessments into a case report reflecting the needs of the whole child, and the writing and implementing of educational plans based on the case study.

Full course, Semester 2.

Ms. Follini.

321. SEMINAR IN THE ANTHROPOLOGY OF EDUCATION.

This course provides a review of social and cultural theories that provide an understanding of education as a process of cultural communication. Theory will be applied to an examination of education at three contextual levels: classroom, school, and community. Emphasis will be placed on studies with a microanalytic research focus.

Full course, Semester 1.

Mr. Carroll.

331. STATISTICS IN EDUCATIONAL RESEARCH.

This is an introduction to the descriptive, parametric, and

nonparametric statistical tests used in educational research. Staff. Full course, Semester 2

338. BILINGUAL EDUCATION.

The course considers theoretical and practical issues in designing, implementing, and evaluating programs for children who are receiving bilingual education.

Full course, Semester 2

Staff.

343. ANALYSIS OF THE RESEARCH PROCESS.

This is a critical examination of the nature of the research enterprise conducted primarily through an analysis of the strengths and weaknesses of existing research in the social sciences focused on educational issues. It is planned for doctoral students — others admitted with permission of instructor Mr. Zern. Full course, Semester 1.

345. RESEARCH AND EVALUATION IN **EDUCATION PROGRAMS.**

This course explores the multiple roles of research and evaluation in developing and improving educational programs. First semester emphasizes the effective use and design of needs assessment, policy research, program implementation research, and impact evaluation. Members will develop a research design for their own professional setting. Second semester emphasizes the process of conducting research in the field, including selecting appropriate measures, carrying out data analysis, and communicating research and evaluation results. While conducting a study in the field, seminar members will examine the evaluator-client relationship and policies of the field research process. Ms. Kenney. Full course, Semesters 1, 2.

366. SEMINAR IN COLLEGE CURRICULUM DESIGN.

Refer to course description under Geography 366. Full course, Semester 2.

Mr. Knos.

GRADUATE READINGS AND THESIS COURSES

300. GRADUATE INTERNSHIP IN EDUCATION.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

301. DIRECTED READINGS.

Variable credit.

Semesters 1, 2, Modular Term.

Staff.

302. RESEARCH IN EDUCATION.

Variable credit.

Semester 1.

Staff.

371. THESIS.

Variable credit

Semesters 1, 2

Staff.

372. THESIS SEMINAR.

Variable credit.

Semesters 1.2

Mr. Kvaraceus

380. DEPARTMENTAL SEMINAR ON CONTEMPORARY **EDUCATIONAL PROBLEMS AND ISSUES.**

This course is designed for master's degree candidates who are not writing a thesis. It requires a major paper.

Full course, Semester 2.

Ms. Kenney, Staff.

English

DEPARTMENT FACULTY

William H. Carter, Jr., Ph.D., Professor of English, Department Chairperson

Karl O.E. Anderson, Ph.D., Professor of English, Emeritus James F. Beard, Jr., Ph.D., Professor of English* Charles S. Blinderman, Ph.D., Professor of English Serena S. Hilsinger, Ph.D., Professor of English James Macris, Ph.D., Professor of English and Linguistics Stanley Sultan, Ph.D., Professor of English Jessie C. Cunningham, Ph.D., Associate Professor of English, Emeritus

James P. Elliott, Ph.D., Associate Professor of English* Virginia Mason Carr. Ph.D., Assistant Professor of English John R. Conron, Ph.D., Assistant Professor of English Leone Scanlon, Ph.D., Director, Clark Writing Center Roscoe C. Blunt, III, M.A., Visiting Lecturer in English

Affiliated Staff

Arthur F. Kinney, Ph.D., Professor of English Kenneth S. Davis, M.S., Professor of English

- *On leave, First Semester, 1978-79
- **On leave, Second Semester, 1978-79

UNDERGRADUATE PROGRAM

The English Department believes that it should provide courses taught by specialists in the major periods of English and American Literature, and insist that upon graduation the English major have some background in most of these periods. The department feels that this background should include not only experience of the literature of these periods but also some understanding of the historical and philosophical contexts in which the works were written. Ideally, an English major upon graduation should possess a sense of cultural history, a developed sensibility, and a knowledge of the major authors, works, and periods of English and American literature; also the student should be capable of critical thinking and effective expression of that thinking. In sum, the student should have achieved a rigorous humanistic education.

To this end, the department provides certain elective and required courses for the first two years of the major. An elective, Introduction to Literature (English 10.), involves intensive training in "close reading" and in critical writing. An elective in Expository Writing (English 18.), this course provides intensive work in composition. A survey of major figures, either British (English 100.) or American (English 101.) is required.

A required course focusing on the historical development of English Poetry is English 13. Another required course focusing on the historical development of English fiction is English 154. or English Drama, English 155. During the sophomore year each major selects — in consultation with his/her adviser and other appropriate members of the staff — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study. To insure this careful integration, the department requires each major to consult with his/her adviser and obtain approval of her/his program at every registration period.

For majors in their junior and senior years the department provides a series of courses and seminars devoted to intensive study of specific periods and authors, courses that demand mature and critical thinking, and require independent work which reflects the student's ability to deal with complex ideas and express himself/herself effectively. During these last two years each student is also required to take one of two seminars specifically designed to achieve an integrating and synthesizing function —either English 297., Varieties of Literary Criticism, or English 298., The Mythopoetic Mode.

The above statement of policy is based, in part, upon identification of our majors:

- Students whose goal is graduate work in English or American Literature.
- Students who are preparing for primary or secondary school teaching.
- Students with a love of literature who wish a general education.

To the first group — the program provides the background necessary for admission to, and success in any graduate program, here or abroad, in English or American literature. To the second group — the program demands and emphasizes knowledge of subject matter and assumes that it is certainly as important as development of the skills, methods, and techniques of teaching. Moreover, in cooperation with the Department of Education, the department has worked out a meaningful concentration in Literature and English Education which leads to state certification. To the third group — because literature does not exist in a vacuum, cannot be experienced or taught in a vacuum, the program provides a history of mind, as much as it does the history of that specific manifestation of mind — literature.

I. BASIC PROGRAM FOR ALL ENGLISH MAJORS Non-required Preparatory Courses:

English 10., Introduction to Literature.

English 18., Expository Writing.

General Requirements:

- A. One full year Survey Course from the following: English 100a. and b., Major British Writers. English 101a. and b., Major American Writers.
- B. Two Genre Courses:
 - English 13., English Poetry (full course, Semesters 1, 2; recommended during freshman year).
 - 2. Either English 154a. and b., English Fiction. or English 155a. and b., English Drama.

These full year genre courses, like the surveys above, are developed chronologically to help consolidate the student's sense of period and of historical development.

 C. One 200-level Seminar in Criticism: English 297., Varieties of Literary Criticism.

or

English 298., The Mythopoetic Mode.

Both course offerings are designed to provide one kind of "capstone experience" and to develop key theoretical, analytical, and methodological skills.

D. Area Requirements:

To help majors develop greater historical perspective and awareness of the range and variety of English and American literature, all majors must take at least:

- Two full courses or seminars dealing with English literature written before 1700. (One of these courses may be 100a., Major British Writers or English 155a., English Drama.) The 200-level courses fulfilling this requirement include English 203., Medieval Literature; 206., Chaucer; 212a. and b., Shakespeare; 215., Special Studies in Renaissance Drama; 216., Literature of the Renaissance; 220., 17th Century; 222., Milton and the Restoration Drama.
- Two full courses or seminars dealing with English or American literature written between 1700 and 1900. (One of these courses may be English 100b., Major British Writers; 101a. or 101b., Major American Writers; 154a. or 154b., English Fiction; or 155b., English Drama.) The 200-level courses fulfilling this requirement include: 226., The Augustans and the Age of Johnson; 236., British Romantic Literature; 238., Blake; 239., American Literary Renaissance; 242a. and b., Victorian Literature; 244., Romantic and Victorian Gothic; 245., Darwinism; 247., Dickens; 249., Twain, Howells, and James; 279., American Landscapes; 254., Realism and Naturalism in American Fiction; 289., American Selves: Autobiography.

E. Every major's program must include at least four full (semester) courses at the 200-level, in addition to English 297. or 298.

II. INDIVIDUAL AREAS OF CONCENTRATION

In consultation with his/her adviser and other appropriate members of the staff, each major shall select — normally during the sophomore year — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study.

III. HONORS PROGRAM

Qualified majors are encouraged to apply in the spring of their sophomore year to participate in the Honors Program in English. Further information is available from the department.

IV. CONSORTIUM OFFERINGS

The range of English offerings open to Clark students has been extended by the establishment of a cooperative arrangement with the English departments at Assumption College and The College of the Holy Cross. With the permission of the department, majors and graduate students may take a few carefully selected courses in literature at these institutions.

V. INTERNSHIP IN JOURNALISM

In cooperation with the University's Internship Office, the English Department administers a program of internships for juniors and seniors in journalism and related fields. In addition to internships in newspaper journalism, the program places students in the news departments of radio and television stations, periodical and book publishers, and the communications departments of large organizations. An intern may major in any discipline, and select his/her own faculty adviser for the internship.

GRADUATE PROGRAM

The University offers a program leading to the Master of Arts degree in English. A limited number of scholarships providing tuition remission are available for superior students. The department also offers several teaching assistantships, involving half-time teaching and half-time study, with stipends ranging up to \$3,200, plus the remission of tuition.

For the Master of Arts, the student must satisfactorily complete at least eight full courses of work, including English 300., Introduction to Graduate Study, and English 280., History of the English Language, and at least one additional seminar. During the second semester of her/his first year in residence, the student must satisfactorily complete English 349., Thesis Workshop. To obtain his/her degree, the student must also complete an acceptable Master's Thesis, English 350. (one full course); she/he must pass a written foreign language examination (in Greek, Latin, French, German, Italian, Russian, Spanish, or other foreign language approved by the department); and he/she must pass a final oral examination.

COURSES

10. INTRODUCTION TO LITERATURE.

This course provides the student with an opportunity for intensive reading and writing about basic elements of poetry, fiction, and drama to include the use of diction, imagery, point of view, tone, and structure. Small sections and limited reading lists will help establish an atmosphere conducive to significant class discussion; emphasis will also be placed on students writing effectively about their experience with literature. Strongly recommended for English majors. No student may take more than one section of English 10. Full course, Semesters 1, 2.

13. ENGLISH POETRY.

This course, required for the English major, focuses upon the development of the most important forms, themes, and movements of English poetry. It emphasizes intensive study and discussion of individual poems. A series of essays on assigned topics is required.

Full course, Semester 1. Full course, Semester 2.

Ms. Hilsinger. Mr. Carter.

14. LITERATURE OF FILM: RELATIONSHIPS BETWEEN LITERATURE AND FILM. Not offered, 1978-79.

This is a course in which relationships between popular literary works and significant films are explored in detail and in depth. Also included in the reading will be books of film and literary theory, aesthetics, history, etc. Offered at the discretion of the

department. See also Film Studies 14. Prerequisite: Film Studies

Full course.

Mr. Hodgkinson, Mr. Elliott.

16. CREATIVE WRITING.

A course designed to cultivate and guide student work, particularly in the short story, the lyric poem, and the informal essay. Class meetings deal largely with important aspects of the art of fiction: published literary works and student manuscripts are discussed. Not open to freshmen. Prerequisite: one semester of literature taught in any department.

Full course, Semester 1.

Staff

17. CREATIVE WRITING.

Open to students who have taken English 16. and to other students interested in writing verse. Prerequisite: same as English 16. Not open to freshmen.

Full course, Semester 1.

Mr. Sultan.

18. EXPOSITORY WRITING.

The purpose of English 18. is to improve expository writing skills by means of specific writing experiences. Students enrolled in this course will be expected to attend two classes per week and to confer with the instructor at least four times a semester, supplemented as needed by the Writing Center. Each of the seven themes (or the equivalent) and a short research paper must be revised as needed to bring them up to a reasonable standard of college writing.

Full course, Semesters 1, 2,

Staff.

19. INTERMEDIATE COMPOSITION.

This course is designed to help those who have already acquired competence in expository writing to improve their style and effectiveness through extensive practice. Special emphasis will be placed on the development of style through such methods as keeping a journal, reading aloud one's own work, and studying the work of established essayists. Close consideration will be given student papers by other students as well as by the instructor. Classes will be informal and will call for the exchange of ideas. Full course, Semester 2. Ms. Scanlon.

20. ENGLISH AS A SECOND LANGUAGE.

This course is designed primarily to improve speaking and writing skills through individual instruction. Some attention will be paid to reading and to aural comprehension. Methods and exercises will be suited to the needs of each student as determined in an individual evaluation by the instructor at the beginning of the semester.

Full course, Semester 1.

Staff.

25. WRITING FOR MAGAZINES.

The course will analyze the writing styles of different magazines (popular, trade, technical, etc.) and will help students develop appropriate styles for submission of stories and expository articles to these magazines. Offered at the discretion of the department. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Blinderman.

077. INTERNSHIP.

Variable credit. Semesters 1, 2.

Staff.

088. DIRECTED READINGS.

Variable credit.

Semesters 1, 2,

Staff.

090. SPECIAL PROJECTS.

Variable credit. Semesters 1, 2.

Staff.

Note: When asking an instructor to sponsor DIRECTED READINGS 088. or a SPECIAL PROJECT 090., the student: (1)

must be able to satisfy the instructor at the time of registration that he/she is competent to deal with the agreed upon materials primarily as works of literature; and (2) must present a well thought-out proposal. The student must have taken the initiative in conceptualizing the principles on which she/he will select readings or carry out a special project, and he/she must have demonstrated competence in determining specific selections and procedures.

100. MAJOR BRITISH WRITERS.

This course is designed to give the beginning student a sense of the historical development of English literature; consequently, each author will be studied both as a representative of his own time and as part of a continuing tradition.

First semester: Beowulf; selections from Chaucer (in translation); Sir Gawain and the Green Knight; Spenser's Faerie Queene, Book III; selections from Shakespeare, Donne, and Milton. Second semester: Bronte's Wuthering Heights and Conrad's Lord Jim; Pope's Rape of the Lock; selections from Blake and Wordsworth; selections from Hardy.

Full course, Semester 1.

Full course, Semester 2.

Ms. Carr. Mr. Sultan.

101. MAJOR AMERICAN WRITERS.

Through study of representative masterworks, the course traces the main currents of American literature from Puritan times to the present. Authors to be read during the first semester include Sewall, Edwards, Franklin, Cooper, Poe, Hawthorne, Thoreau, Emerson, and Melville; during the second semester: Whitman, Twain, Howells, Dickinson, Adams, Crane, James, Frost, Eliot, Faulkner, and Hemingway.

Full course, Semester 1.

Full course, Semester 2.

Mr. Conron. Mr. Beard.

110. INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

This is an introduction to the basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. Previously listed as 130. See also History 110.

Full course, Semester 1.

Mr. Ford, Mr. Formisano.

116. MODERN FICTION BY WOMEN WRITERS.

The selection of authors and works is based on three major concerns: that the literature read represent a chronological span, that it preserve a certain thematic coherence, and that it allow ample opportunity for discussion of aesthetic matters. The course is concerned with works written between 1892 and 1973 which provide portraits of women in all stages and conditions of life rendered in a broad spectrum of fictional techniques. Authors studied include Kate Chopin, Gertrude Stein, Djuna Barnes, Katherine Ann Porter, and Doris Lessing. Offered at the discretion of the department. Full course, Semester 2. Ms. Hilsinger.

125. THE SHORT STORY.

This course involves the intensive reading of a wide range of stories which exemplify a variety of fictional methods, affording the student some knowledge of the history of this literary type. The primary aim is to help the student develop an appreciation of the broadly human values implicit in the short story. Offered at the discretion of the department.

Full course, Semester 2.

Mr. Carter.

129. MODERN DRAMA.

This course is a survey of Western drama and theatre from Ibsen to the present. The first semester traces the development of modern realistic drama and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major post-war movements and the radical dramatic forms which they have produced. See also Theatre Arts 154.

Full course, Semesters 1, 2.

Mr. Schroeder.

131. AMERICAN STUDIES: THE 1930's. Not offered, 1978-79. This course is an introduction to the variety of perspectives and disciplines involved in American Studies and their application to a particular theme or historical moment in American culture. (In this case, the subject will be the effects of the Depression on 1930's America.) Texts will include films, paintings, and photographs as well as works of social science and literature. Offered at the discretion of the department. See also History 131.

Full course.

Mr. Conron, Mr. Campbell.

140. SCIENCE-FICTION AND FANTASY LITERATURE: THE TRADITION.

While contemporary works will be included, this course will focus on contributors to the tradition: Plato, Bacon, More, Mary Shelley, Poe, Verne, Morris, Wells, and Bellamy. Limited to 25 students. Independent research and reports will be required. Offered at the discretion of the department.

Full course, Semester 2.

Mr. Blinderman.

143. MODERN BRITISH FICTION.

This course deals primarily with the work of five twentieth century British writers of fiction: Joyce, Lawrence, Woolf, Forster, and Lessing.

Full course, Semester 1.

Ms. Hilsinger.

144. MODERN AMERICAN FICTION.

A critical introduction to the best American fiction from about 1900 to 1960, with emphasis on its aesthetic values, sociological insights, and philosophical implications. Authors read will include Dreiser, James, Anderson, Fitzgerald, Hemingway, Capote, Faulkner, Ellison, and Mailer.

Full course, Semester 1.

Mr. Beard.

146. LITERATURE OF THE SIXTIES.

This course will be a survey of contemporary British and American fiction and poetry. Writers to be considered may include Burgess, Hawkes, Golding, Barth, Mailer, Malamud, Bellow, Heller, Vonnegut, and representative modern British and American poets. Full course, Semester 2. Mr. Elliott.

154. ENGLISH FICTION.

An exploration of narrative and fictive modes from their earliest appearances in English to the twentieth century. In the first semester, texts will include *Moll Flanders, Clarissa, Tom Jones, Tristram Shandy*, and others. Writers considered in the second term will include Thackeray, Dickens, James, Hardy, Conrad, and others. Close attention will be paid both to texts and to their cultural contexts.

Full course, Semesters 1, 2,

Staff.

155. ENGLISH DRAMA.

This is a course in the major periods of the English drama and theatre before the twentieth century. The first semester covers the medieval theatre, and the drama of Tudor, Jacobean, and Caroline England. The second semester covers the period from 1660 to the twentieth century. No prerequisite. See also Theatre Arts 155. Full course, Semesters 1, 2.

Mr. Schroeder.

161. ADVANCED CREATIVE WRITING. Not offered, 1978-79. This is a course for serious undergraduate literary artists. Admission by permission of instructor, who will require a sample of the student's work. Enrollment limited to 10. Offered at the discretion of the department.

Half course. Mr. Sultan.

182. ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS.

A multidisciplinary program which will approach Romanticism from

the perspectives of philosophy, literature, music, and the visual arts. Part of a Humanistic Studies cluster which also offers credit as Philosophy 182., Comparative Literature 182., and Music 182. Full course, Semester 1.

Mr. Blinderman, Mr. Castonguay, Mr. Overvold, Mr. Schatzberg.

203. SEMINAR: MEDIEVAL LITERATURE. Not offered, 1978-79. A study of the literature of the Middle Ages, with special emphasis upon the literature of England. Readings will include *The Romance of the Rose*, Dante's *Inferno*, *Sir Gawain and the Green Knight*, the *Pearl*, selected lyrics and shorter poems from England, as well as selections from the *Canterbury Tales*. Offered in alternate years. Full course.

Ms. Carr.

206. CHAUCER.

An introduction to Middle English grammar, pronunciation and scansion, and a study of *Troilus and Criseide* and the best of the *Canterbury Tales*, followed by a more rapid reading of at least one of Chaucer's earlier works, such as *The Book of the Duchess, The House of Fame, The Parliament of Fowls*, and *The Legend of Good Women*. Offered in alternate years.

Full course, Semester 2.

Ms, Carr.

212. SHAKESPEARE.

Approximately 20 plays are read through the year as a basis for a study of Shakespeare's development as a dramatist. Semester 1 will cover Shakespeare's early plays, the histories and the mature comedies, ending with *Hamlet*. Semester 2 will emphasize the later tragedies as well as the romances.

Full course, Semesters 1, 2.

Ms. Carr.

216. THERENAISSANCE IN ENGLAND. Not offered, 1978-79. From Thomas More's book on nowhere-at-all (called *Utopia*) to Shakespeare's witches who argue, in *Macbeth*, that "Fair is foul and foul is fair," to the metaphysical poetry of John Donne, this course will examine equivocation as the mode of thought and response in the sixteenth century, a century torn by the Protestant discoveries of Copernicus; the economic rise of capitalism; the wars with Spain (and the Spanish Armada); and the quiet political revolution — from monarchy to government by Parliament. Offered at the discretion of the department.

220. SEMINAR: 17TH CENTURY.

A study of selected Metaphysical, Cavalier, and early Neo-Classical poets (including John Donne, George Herbert, Henry Vaughan, Richard Crashaw, Ben Jonson, Robert Herrick, Andrew Marvell, John Wilmot, Earl of Rochester, and John Dryden), and of major writers of seventeenth century prose (including Sir Francis Bacon, Thomas Hobbes, Izaak Walton, Robert Burton, Sir Thomas Browne, John Evelyn, Samuel Pepys, John Locke, and John Dryden). Offered in alternate years. Prerequisite: permission of instructor.

Full course.

Mr. Carter.

222. SEMINAR: MILTON AND THE RESTORATION DRAMA.

Not offered, 1978-79.

This is an intensive reading of Milton's poems and selected Restoration plays by Wycherley, Etherege, Dryden, Congreve, and others. Offered in alternate years. Prerequisite: permission of instructor.

Full course.

Mr. Carter.

226. SEMINAR: STUDIES IN 18TH CENTURY LITERATURE.

The first seven weeks of this course will focus primarily on the Augustans — the poetry of Pope; Swift's poems, essays, and Gulliver's Travels; and Gay's Beggar's Opera. As these authors tend to be intensely topical and satirical, substantial effort will be made to relate them and their writings to the literature, life, and thought of the times. The rest of the term will deal with the Age of Johnson. Although our primary emphasis will be on James Boswell

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and Samuel Johnson, we will also deal with a number of eighteenth century poets (to be selected from the following: James Thomson, William Collins, Thomas Gray, Christopher Smart, Oliver Goldsmith, Thomas Chatterton, William Cowper, and George Crabbe) and with at least two eighteenth century dramatists Goldsmith and Sheridan. The course will be flexibly designed to permit students to investigate other contemporary figures in related arts or disciplines (e.g., Bernard Mandeville, David Hume, Edward Gibbon, Sir Joshua Reynolds, and Edward Burke). Offered in alternate years. Prerequisite: permission of instructor Full course. Semester 1.

236. BRITISH ROMANTIC LITERATURE. Not offered, 1978-79. To define Romanticism, this course will focus on selected writings of English Romantic poets and prose-writers. Relevant works will be studied in depth, but attention will also be paid to biographical, sociological, and philosophical contexts. An effort will be made to correlate British Romanticism with other romanticisms - of nineteenth century America and continental Europe, of earlier times and of the present. Offered in alternate years. Full course. Mr. Blinderman

238. SEMINAR: WILLIAM BLAKE. Not offered, 1978-79. This is an introduction to the poems and a selection of the Prophetic Books of Blake, including some consideration of Blake as a graphic artist. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course. Mr. Carter.

239. SEMINAR: AMERICAN LITERARY RENAISSANCE.

Not offered, 1978-79, Characteristic writings by Emerson, Thoreau, Hawthorne, Poe, Melville, and Whitman are juxtaposed dialectically to explore the uniqueness of their individual and collective accomplishments and their larger implications in the context of American culture. Field trip to Concord and possibly elsewhere. Offered at the discretion of the department. Prerequisite: permission of instructor Mr. Beard. Full course.

240. AMERICAN CULTURE AND SOCIETY, 1820-1860.

This course is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention will be paid to the cultural geography, the arts (primarily literature and painting), and to some significant political and social issues of the period. Some of the germinal works in American Studies (Leo Marx's The Machine in the Garden and R.W.B. Lewis's The American Adam, for example) will be read to provide contexts for the study of representative cultural and social expressions of the period. These expressions will include wilderness, pastoral, small town and urban landscapes; landscape and portraiture in painting; writings of Emerson, Hawthorne, and Melville; and Jacksonian thought and politics. Offered at the discretion of the department. Note: In 1978-79, it is planned that this will be taught as a cluster course by Mr. Formisano, Mr. Conron, and members of the staff at Old Sturbridge Village, under the auspices of the Program of Humanistic Studies. Full course, Semester 2 Staff.

242. VICTORIAN LITERATURE. Not offered, 1978-79. This is a study of Victorian values and major intellectual movements as expressed in literature. The first semester concentrates on the idea of Duty (transcendental, utilitarian, Catholic, Darwinian, and Dickensian); the second on the idea of Decadence (from the Pre-Raphaelites to Beardsley). Offered in alternate years.

Full course. Mr. Blinderman.

244. SEMINAR: ROMANTIC AND VICTORIAN GOTHIC.

This seminar will call forth the Gothic spirit from its incarnations in architecture, painting, and literature — graveyard poetry, Gothic novels, Frankenstein. Films and field trip. Offered at the discretion of the department.

Full course, Semester 1.

Mr. Blinderman.

245. SEMINAR: DARWINISM.

Not offered, 1978-79. This seminar, of an interdisciplinary nature, is devoted to the study of original and research materials elucidating the scientific. philosophical, religious, and social dimensions of Darwinism. The course examines chiefly the survival of the fittest Darwinian ideas in English and American literature. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course. Mr. Blinderman.

249. SEMINAR: TWAIN, HOWELLS, AND JAMES.

Not offered, 1978-79.

This course will explore the artistic assumptions and impulses underlying American Realism through selected novels and criticism of America's three greatest realistic novelists. Offered at the discretion of the department. Prerequisite: permission of instructor.

Full course. Mr. Elliott.

252. SEMINAR: JOSEPH CONRAD. Not offered, 1978-79, This is a study of Joseph Conrad's work. Offered at the discretion of the department. Prerequisite: permission of instructor Half course. Mr. Sultan.

254. SEMINAR: REALISM AND NATURALISM IN AMERICAN FICTION.

This course will explore the artistic assumptions underlying American Realism and its off-spring, American Naturalism. The focus will be on the techniques and themes used by such writers as Twain, Howells, James, Crane, Norris, London, and Dreiser, Offered at the discretion of the department. Prerequisite: permission of instructor. Full course, Semester 2. Mr. Elliott.

255. SEMINAR: WILLIAM FAULKNER.

This is an intensive discussion of Faulkner's narrative art—his technical strategies in light of the writers he studied and his ideas about the American South. Readings will be selected from his major novels and/or his major short stories. Offered at the discretion of the department. Prerequisite: permission of instructor.

Full course, Semester 2. Mr. Kinney.

257. SEMINAR: THE IRISH LITERARY MOVEMENT.

Not offered, 1978-79.

This is a course in the inception, development, and effect of the literary movement during the end of the last century and the first decades of this one that created an Irish literature in English. Writers studied include Yeats, Joyce, Synge, and O'Casey. The cultural, historical, and political backgrounds of Anglo-Irish literature are also studied. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course. Mr. Sultan.

258. LAWRENCE AND JOYCE. Not offered, 1978-79. This course is an intensive introduction to the art of the two

writers. Poems, short stories, and novels by both will be studied. Offered at the discretion of the department. Prerequisite: permission of instructor.

Mr. Sultan. Full course.

259. MODERNIST POETRY. Not offered, 1978-79.

This is a survey, with special attention to the genesis and development of modernism and to tendencies during the last few years toward a dominant new movement in English poetry. The works of almost 50 poets, ranging in time from Emily Dickinson to Robert Creeley, are considered. Offered in alternate years. Mr. Sultan. Full course.

261. SEMINAR: W. B. YEATS.

This is an intensive study of the accomplishment of Yeats. The principal concern will be his poetry, but attention will be given to his thought, his dramatic and his other writings, and his cultural

role in Ireland, and the world during his time. Offered at the discretion of the department. Prerequisite: one of the following: Introduction to Poetry, The Irish Literary Movement, T. S. Eliot; also, permission of instructor.

Full course, Semester 1.

264. SEMINAR: T.S.ELIOT.

Not offered, 1978-79.

This is an intensive study of the major poems, plays, and critical essays of T. S. Eliot. Offered at the discretion of the department. Prerequisite: permission of the instructor.

Full course.

Ms. Hilsinger.

266. SEMINAR: VIRGINIA WOOLF.

This is an intensive study of Mrs. Woolf's nine novels, her short stories, her major essays, and her diary. The course will emphasize the artistic process as well as the vision of Mrs. Woolf's work, and it will consider such collateral issues as Mrs. Woolf's critical stance and her feminism. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course, Semester 1. Ms. Hilsinger.

267. SEMINAR: SPECIAL STUDIES IN 20TH CENTURY AMERICAN LITERATURE: HEMINGWAY AND FAULKNER.

Not offered, 1978-79.

This is a seminar devoted to the intensive study of a twentieth century writer or small group of writers - Hemingway and Faulkner in 1976-77. Offered at the discretion of the department. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Beard.

268. SEMINAR: EUGENEO'NEILL. Not offered, 1978-79. This is an intensive study of about 20 of O'Neill's plays, from the early one-acters to The Iceman Cometh, Long Day's Journey into Night, and A Moon for the Misbegotten, with some attention to ideas, persons, and theatrical movements affecting O'Neill. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course.

Mr. Beard.

273. SEMINAR: F. SCOTT FITZGERALD AND THE TWENTIES.

American Literature experienced a rebirth in the 1920's. Using F. Scott Fitzgerald's writings as convenient points of reference, the seminar will examine, with particular attention to experiments in expression, works by such writers as Gertrude Stein, E.E. Cummings, T.S. Eliot, Sherwood Anderson, Ernest Hemingway, Sinclair Lewis, William Faulkner, Eugene O'Neill, William Carlos Williams, and Wallace Stevens. Interrelationships among the arts significant in the development of new forms and modes of expression will be stressed. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Beard.

274. NOSTALGIA: THE FASCINATION WITH GOLDEN AGES. See History 239.

278. SPECIAL STUDIES IN 20TH CENTURY LITERATURE.

Not offered, 1978-79. Tutorial with individual students who will evolve and develop their own projects in English literature or comparative literature (English and French, Spanish, German, or English and more than one of the others). Projects need not be critical papers. Translation, studies in the sociology of literature, the editing of private papers, and other projects may be undertaken. Offered at the discretion of the department. Prerequisite: permission of instructor. Half course. Mr. Sultan.

279. AMERICAN LANDSCAPES.

This course will trace the evolution of American attitudes towards the natural landscape and of the literary forms which articulate these attitudes. Two literary problems will be considered in detail: how language functions to describe landscape and how this language reflects the perceptions of those who describe it. Texts

will include travelogues, nature writing, fiction, and poetry from the eighteenth century to the present. Some attention to landscape painting will also be paid. Offered at the discretion of the department.

Full course. Semester 1.

Mr. Conron

280. THE HISTORY OF THE ENGLISH LANGUAGE.

This course traces the development of English from Proto-Indo-European to present day American English. It concentrates on the main phonological, morphological, syntactic, and lexical features of the Old English, Middle English, Early Modern English, and Modern English periods. M.A. candidates in English are required to take this course. Prerequisite: permission of instructor. Full course, Semester 2. Mr. Macris.

282. SEMINAR: OLDENGLISH.

Not offered, 1978-79.

This is an introduction to Old English language and literature. The works read include King Alfred's preface to Pope Gregory's Pastoral Care and selections from the West Saxon Gospels, from the Old English translation of the Heptateuch, from Aelfric's Colloguy, from the Anglo-Saxon Chronicle, and from the Old English translation of Bede's Historia Ecclesiastica Gentis Anglorum. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course. Mr. Macris.

284. SEMINAR: MODERN AMERICAN ENGLISH.

This seminar analyzes the grammatical structure of Modern American English. It concentrates on an evaluation system for handling spoken and written English and the application of this system to problems of current English usage. The relevance of linguistic theory and methodology of the teaching of English receives special attention. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course, Semester 2. Mr. Macris.

285. SEMANTICS.

See Linguistics 285. Full course, Semester 1.

Mr. Macris.

286. SEMINAR: LINGUISTIC APPROACHES TO LITERATURE.

Not offered, 1978-79.

This is a study of what modern linguistics has to offer in the analysis and criticism of literature, with special attention to the contributions of the generative-transformational, tagmemic, and parametric approaches. Offered at the discretion of the department. Prerequisite: permission of instructor. Full course. Mr. Macris.

287. INTRODUCTION TO LINGUISTICS.

See Linguistics 287. Full course, Semester 1.

Mr. Macris.

288. COMPARATIVE AND HISTORICAL LINGUISTICS.

See Linguistics 288. Full course.

Notoffered, 1978-79.

Mr. Macris

289. AMERICAN SELVES: AUTOBIOGRAPHY.

Not offered, 1978-79

Since the emergence of the colonies, self-histories have been an indispensable mode of literary expression in America. The course will examine some of the cultural tendencies in America behind the impulse to self-history and some of the forms which this impulse has taken. It will begin by considering representative models of autobiography from the eighteenth and early nineteenth centuries, including works by Jonathan Edwards, Benjamin Franklin, Frederick Douglass, and Walt Whitman. The major concentration. however, will be on such modern autobiographies as The Education of Henry Adams, The Autobiography of Alice B. Toklas. Black Boy, These Are Our Lives, and Frederick Exley's A Fan's Notes. Offered at the discretion of the department. Full course. Mr. Conron

291. THE PROTESTING VOICE AND THE INDIGNANT EYE: SATIRE IN LITERATURE AND

THE VISUAL ARTS. Not offered, 1978-79.

This is a survey of the range and vitality of the genre of satire in literature from Aristophanes to the present and in the visual arts. from the fifteenth century to Picasso. Offered at the discretion of the department. Prerequisite: English 10., or one semester of study in literature taught in any department. Full course.

Mr. Carter.

292. INTERNSHIP TEACHING.

See Education 272. Full course, Semester 2.

Ms. Britton, Ms. Carr.

293. WORKSHOP IN SECONDARY ENGLISH CURRICULUM.

A study of new approaches to English Curriculum and preparation for practice teaching (visiting schools, observing classes, some apprentice teaching and tutoring, and work sessions with cooperating teachers). See also Education 293. Full course, Semester 1. Ms. Britton.

294. MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH.

This is a review and application of specific materials and techniques in the teaching of composition and poetry. This seminar involves student interns, specialists, and experienced teachers

Full course, Semester 2.

Ms. Britton.

295. TEACHING ENGLISH AS A SECOND LANGUAGE.

This course covers the principles and practice of second language teaching, with emphasis on the application of modern linguistics to the teaching of English as a second language. Offered at the discretion of the department. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Macris.

297. SEMINAR: VARIETIES OF LITERARY CRITICISM.

Using a small number of model literary works, this course explores the theory and practice of alternative critical perspectives and schools of criticism. Candidates for Honors in English are encouraged to elect either this seminar or English 298., no later than their junior year. Prerequisite: permission of instructor. Mr. Sultan. Full course, Semester 2.

298. SEMINAR: THE MYTHOPOETIC MODE.

This seminar explores the vision and epistemology of mythopoetic literature. Works read and discussed include Shakespeare's Henriad, Milton's Paradise Lost, Bronte's Wuthering Heights, Melville's Moby Dick, and a work of the Modern Period. Candidates for Honors in English are encouraged to elect either this seminar or English 297., in their junior year. Prerequisite: permission of instructor.

Full course, Semester 2.

Ms. Hilsinger.

299. HONORS IN ENGLISH: SENIOR YEAR.

Full course.

Staff.

300. INTRODUCTION TO GRADUATE STUDY IN ENGLISH.

This course examines certain fundamental aspects of literary theory and considers the nature of and relationships among the three principle areas in the discipline — bibliography and textual analysis, literary history, and literary criticism. M.A. candidates are required to take this course. Prerequisite: permission of instructor. Mr. Sultan. Full course, Semester 1.

349. THESIS WORKSHOP.

Not offered, 1978-79. This seminar involves the doing — though not necessarily the

completion — of a scholarly-critical project in literature on a professional level. The entire process from initial formulation to final presentation will be considered in the context of the specific individual projects of students in the group. A prerequisite is active commitment to and involvement in such a project. While intended primarily for graduate students in English, undergraduates with appropriate projects — honors theses, for example — from English and allied disciplines may be accepted by permission. Full course. Mr. Beard.

350. MASTER'S THESIS.

Prerequisite: permission of chairperson or Director of Graduate Full course.

351. READING COURSE FOR MASTER'S THESIS.

Normally, only students writing theses in linguistics may take this course. Prerequisite: permission of chairperson or Director of Graduate Studies.

Full course.

388. GRADUATE DIRECTED READINGS.

This course may be elected to pursue in-depth a topic other than that chosen for the Master's thesis. Prerequisite: permission of instructor and chairperson or Director of Graduate Studies. Variable credit. Staff.

COMPARATIVE LITERATURE

A student may count any of the courses listed under Comparative Literature toward the English major. In all cases, such electives must be approved by the student's adviser in the English Department as being meaningfully related to the student's overall program of English studies. The four core courses of the Comparative Literature Program — Comparative Literature 190., 230., 240., 251. — are especially recommended.

LINGUISTICS

115. MAN AND LANGUAGE.

See Linquistics 115.

Staff

THEATRE ARTS

The following courses in Theatre Arts may be taken for credit toward the English major.

10. INTRODUCTION TO DRAMA.

See Theatre Arts 10. Full course, Semester 1.

Mr. Schroeder.



185. TENNESSEE WILLIAMS.

See Theatre Arts 185. Full course.

Not offered, 1978-79.

Mr. Schroeder.

281. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA.

See Theatre Arts 281.
Full course.

Mr. Schroeder.

286. SEMINAR: IBSEN.

See Theatre Arts 286. Full course.

Not offered, 1978-79.

Mr. Schroeder.

Environmental Affairs

PARTICIPATING FACULTY

Harry E. Schwarz, B.C.E., Program Director, Visiting Professor of Environmental Affairs and Adjunct in Geography

Leonard Berry, Ph.D., Professor of Geography; Acting Director, Graduate School of Geography; Co-director, International Development and Social Change Program

Roger E. Kasperson, Ph.D., Professor of Government and Geography

Robert W. Kates, Ph.D., University Professor, Professor of Geography

John Reynolds, Ph.D., Professor of Microbiology Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology; Chairperson, Department of Psychology

Richard B. Ford, Ph.D., Associate Professor of Comparative History, Co-director, International Development and Social Change

Christoph Hohenemser, Ph.D., Associate Professor of Physics Laurence A. Lewis, Ph.D., Associate Professor of Geography Frank Puffer, Ph.D., Associated Professor of Economics Dennis W. Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Adjunct in Geography Alan A. Jones, Ph.D., Assistant Professor of Chemistry

PROGRAM

This program was developed in response to the challenge of the period of change which is being experienced in relations between people and their environment. New relations require new concepts and reevaluated views of existing ones. Thus, a new field of professional endeavor is evolving to deal with people and their environment. The purpose of this program is to train students for entry-level professional positions in the expanding fields of environmental planning, management, and education. The terminal point of the program is the attainment of the degree of Master of Arts in Environmental Affairs. The baccalaureate degree is incidental to the program, serving as the proof of attainment in a traditional discipline.

Within the program, concentrations are offered in environmental planning on the regional or urban level for land, water, and air, in environmental monitoring and environmental education. The program is flexible in order to accommodate changes in the field and to remain relevant in this dynamic world.

The Environmental Affairs Program offers a student substantive knowledge in an academic discipline, a group of undergraduate courses covering the concepts and tools necessary for working on environmental problems, an internship in an environmental agency and a one-year graduate program involving advanced courses in specialized areas, seminars, and a practicum in which the student develops a terminal project or

thesis. Both academic and practical experiences make up the Environmental Affairs Program of study.

A central feature of the program is the relationship between student and adviser. By limiting the number of students admitted, close student-adviser relationships are maintained. In this way, the program can be tailored to the individual student's needs through the selection of undergraduate courses which develop a student's disciplinary training while providing a strong foundation on environmental issues.

Where listed courses at Clark do not meet a student's full needs, consortium courses, special projects, and directed readings provide the necessary additional training. At full summer internship is recommended immediately after complettion of the baccalaureate degree and before the commencement of graduate work, but the program permits the internship at other periods, such as during the senior year or within the graduate-training span. In the two-year undergraduate part of the program, students are expected to take courses in a chosen discipline and environmental program-oriented courses to complete their baccalaureate requirements. Ten courses are required for graduate credit.

ADMISSION

Because the program is a three-year combined B.A./M.A. program, students normally are admitted at the end of their sophomore or the beginning of their junior year. A small number of graduate students are admitted to the program if their admission adds to the student body a range of backgrounds not available from within. However, those entering the program with a bachelor's degree normally require at least one and one-half years of study to complete the necessary course work.

In order to maintain a close student-faculty relationship, admission to the program is limited to approximately 15 students per year. Selection of persons for admission is based upon an evaluation of the applicant's previous academic record and work experience, plus an interview with the admissions committee. In those cases where the interview requirement would impose an extreme hardship upon the applicant, a mutually satisfactory alternative may be possible.

Students applying for admission at the junior level are expected to have a cumulative average of about B— or higher, and to have satisfactorily completed at least four courses in the sciences of which at least one each should be in biology and the physical and social sciences. Individual exceptions are possible if competence can be demonstrated in an alternative way. Seniors may be accepted on an individual basis with additional requirements based on the program objective and past experience of the student. Deficiencies may be made up by summer courses prior to entering the program or for one course only by concurrent registration in the junior year.

Since admission to the program is highly restricted, interested students are urged to apply as early as possible to the program director for a determination of their eligibility.

UNDERGRADUATE PROGRAM

The undergraduate portion of the Environmental Affairs Program emphasizes the acquisition of the tools and concepts students need as a base from which to develop their knowledge and skills in environmental affairs. Two options are available to students in their undergraduate years. One, the preferred, is to satisfy a departmental major and an environmental minor and so receive a Bachelor of Arts degree in a traditional discipline. The other is to receive a Bachelor of Arts with a concentration in environmental affairs and in a related field such as biology; chemistry; geography; government; management, psychology; sociology; or science, technology and society. The specific requirements for each of these options are:

This leads to a Bachelor of Arts degree in any discipline with an

environmental minor. The student must fulfill the requirements of a major in an established discipline and complete five course credits in environmental affairs, including the following:

Number	Title	Credit
EA 201.	Applications of Systems Analysis to	
	Environmental Problems	1/2
EA 202.	The Biosphere	1/2
EA 203.	Man's Perception of His Environment	1/2
EA 204.	Environmental Plans and Programs	1/2
Individual course substitutions may be made with the approval		
of the average diseates Division the sentences of the first		

of the program director. During the senior year, students must take at least 2 courses accepted on the graduate level, if they plan to complete graduate work in one year.

Option 2

This leads to a Bachelor of Arts degree with concentration in environmental affairs. This program jointly designed by the student must take at least two courses accepted on the Graduate Board. This program must include EA 201., 202., 203., 204. (four 1/2 courses), EA 250. (one double strength course); two other EA courses, eight course credits in one field such as biology; chemistry; geography; government; management; psychology; sociology; or science, technology and society that provide basic skills or are related to environmental problems. and two courses in fields other than the area of concentration that are related to the environment. Individual course substitutions may be made with the approval of the program director. During the senior year, students must take at least two courses acceptable on the graduate level if they plan to complete graduate work in one year.

GRADUATE PROGRAM

Admission: Students that have been enrolled in the program as undergraduates will continue in the graduate phase if they meet the standards of the Graduate School and pass a review of their progress by the Environmental Affairs Program Admissions Committee. A student entering the program with a bachelor's degree is accepted only if the Environmental Affairs Admissions Committee determines not only that the student is capable of doing the work, but also that the student's admission will further the goals of the program.

Internship: An internship in an agency or firm of at least two months duration in which the intern works on an environmental problem or equivalent practical experience is required. The internship will normally be accomplished during the summer following the baccalaureate. Students will be assigned to internships or can find a position by themselves if such a position is approved by the director of the program.

Coursework: A course program of 10 courses is required, eight courses if the student took two courses acceptable at the graduate level in the senior year. This course program will be agreed upon jointly by the student and adviser and will be directed towards a specific focus, such as water or air pollution, planning, monitoring, or any other specific topic. One course credit for research or practical work (EA 330.) on the thesis or terminal project and one for writing the thesis or project (EA 350.) are a required part of the course program. Students entering the program at the graduate level may be required to take additional courses as needed to fill gaps in their undergraduate preparation.

Teaching and Research Prerequisite: Some teaching and research at Clark is prerequisite to the M.A. degree. Every effort is made to provide on and off-campus training activity at the teaching and research level.

Master's Project: This can be a terminal project, i.e., the solution to a specific problem or a thesis on a research topic. In either case, it must relate to the student's specific course focus, and its topic and outline must be approved by the director of the

Financial Aid: Several tuition remission scholarships are available for qualified applicants.

COURSES

101. INTRODUCTORY CASE STUDIES.

Refer to course description under Science, Technology and Society, 101, Full course, Semester 1. Mr. Ducsik, Mr. Hohenemser,

Mr. Kates, Mr. Schwarz. Full course, Semester 2. Mr. Ducsik, Mr. Kasperson.

109. MICROBIOLOGY.

See course description under Biology 109. Full course, Semester 1.

Mr. Reynolds.

201. APPLICATION OF SYSTEMS ANALYSES TO **ENVIRONMENTAL PROBLEMS.**

This course will discuss the fundamental concepts of system analyses and their application to environmental problems. Stress will be on the use, applicability, and limitations of this method in analyzing complex environmental systems and their physical. social, and economic aspects. Prerequisite: admission to Environmental Affairs Program or permission of instructor. Half course, First half, Semester 1. Mr. Schwarz.

202. THE BIOSPHERE

Building on a foundation of general knowledge of physiology. genetics, taxonomy, and ecology, the course will provide a biological context and perspective for the analyses and assessment of man-made environmental hazards. Prerequisite: introductory course in biological science or concurrent registration in such course with permission of instructor. Half course, Second half, Semester 1. Mr. Erickson.

203. MAN'S PERCEPTION OF HIS ENVIRONMENT.

This is an introduction to the study of environmental behavior. examining man's reactions to environmental changes and natural and man-made hazards. Half course, First half, Semester 2. Staff.

204. ENVIRONMENTAL PLANS AND PROGRAMS.

This is an overview of the planning process with special emphasis on plans and programs in the New England region. Plans and programs now current are examined and their logic and history discussed.

Half course, Second half, Semester 2. Mr. Schwarz.

205. READINGS IN ENVIRONMENTAL AFFAIRS.

The course consists of directed readings for undergraduates in an area of their choice. Prerequisite: permission of instructor. Variable credit. Semesters 1, 2, Staff.

206. RESEARCH IN ENVIRONMENTAL AFFAIRS.

The course consists of special research projects for undergraduates in an area of their choice. Prerequisite: permission of instructor. Variable credit. Semesters 1, 2,

Staff.

210. ENVIRONMENTAL PROTECTION.

This is a free-wheeling discussion of pollution control in the real world, its legal, institutional, and political framework, Federal. state, and local laws and their scientific basis; agency practice and procedure; public litigation and private "citizen suits" selecting theories and remedies, both civil and criminal; tactics and strategies; citizen "watchdog" groups; corporate and media responsibility; economy versus ecology; old tools, new tools, potential for change. The course includes reading in multilithed materials with statutes, regulations, court documents, case decisions, news accounts, and journal articles. There will be informal student advocacy panels to assure balanced presentation of issues.

Full course, Semester 2.

Staff.

216. ENVIRONMENTAL IMPACT ASSESSMENT.

This course will deal with impact assessment under the National Environmental Policy Act of 1969 (NEPA). Focus will be on the analysis and evaluation of impacts on Federal programs and projects on interrelated physical and social components and dynamics of the human environment. Methodological as well as conceptual requisites for the interdisciplinary analysis and evaluation of impacts will be discussed. Special emphasis will be given to the management of the assessment team as a key factor in meeting the environmental goals of impact assessment under NEPA. Relevant case studies will be selected from a wide variety of domestic and international programs and projects.

Full course, Semester 1.

Mr. Erickson.

221. APPLIED SURFACE WATER HYDROLOGY.

The course will focus on practical applications of hydrology for water resources management. Topics such as flood plane analyses, frequency analyses, and reservoir operation will be covered in detail following a quick review of the field. Prerequisite: Geography 014. or permission of instructor.

Full course, Semester 2.

Mr. Schwarz.

231. SEMINAR: POLITICS AND ENVIRONMENT.

See course description under Geography 231.
Full course, Semester 2.

Mr. Kasperson.

226. TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT.

For advanced students, this is an introduction to the theory and methods of risk assessment and hazard management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation.

Full course, Semester 2.

Mr. Kates.

232. SELECTED TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH.

See course description under Biology 232. Full course, Semester 2.

Mr. Reynolds.

238. ISSUES IN PUBLIC HEALTH.

See course description under Biology 238. Full course, Semester 1.

Mr. Reynolds.

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

See course description under Biology 239. Full course, Semester 2.

Mr. Reynolds.

250. PRACTICAL PROBLEMS IN ENVIRONMENTAL AFFAIRS.

This is a work-study course. The student will work four full (eight hour) days in an environmental agency in the Worcester-Boston area or spend equivalent time on a project at the University. Also, weekly seminars at the University will review and evaluate work experiences. Grades will be awarded on the basis of the student's accomplishment in internship posts and seminars. This course does not substitute for required program internship. Prerequisite: permission of instructor.

Double course, Modular Term.

300. READINGS IN ENVIRONMENTAL AFFAIRS.

The course consists of directed readings for graduate students in an area of their choice. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2. Staff.

301. RESEARCH IN ENVIRONMENTAL AFFAIRS.

This is a course in directed reading for graduate students in an area of their choice. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2. Staff.

330. PRACTICUM IN ENVIRONMENTAL AFFAIRS.

Individuals or small groups of students will be working on real world problems. Emphasis in this studio course will be on practical problem solving.

Full course, Semesters 1, 2.

Mr. Schwarz.

347. SEMINAR IN SYSTEMS ANALYSIS.

This course is designed to develop a closer familiarity with complex models. Students working as a group will either develop or adapt a complex system and test the output on the computer. Prerequisite: Geography 248. or permission of instructor. Full course, Semester 1.

Mr. Schwarz.

350. THESIS IN ENVIRONMENTAL AFFAIRS.

This course consists of preparation of Master's Thesis or Master's Terminal Project.

Full course, Semesters 1, 2.

Staff.

357. REGIONAL WATER RESOURCES PLANNING.

PLANNING.

Not offered, 1978-79.

The process of regional water resources planning is reviewed in the context of broad environmental concerns and is applied to an actual problem. Students working as a group select a region and prepare for that area a preliminary planning document that could be used as a guide for future detailed planning.

Full course.

Mr. Schwarz.

COURSES DIRECTLY CREDITABLE IN ENVIRONMENTAL AFFAIRS.

BIOLOGY

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

See course description under Biology 239. Full course, Semester 2.

Mr. Reynolds.

CHEMISTRY

142. ENVIRONMENTAL CHEMISTRY.

See course description under Chemistry 142. Full course, Semester 1.

Mr. Jones.

GEOGRAPHY

013. FIELD STUDIES OF ENVIRONMENTAL ISSUES.

See course description under Geography 013. Full course, Semester 2.

Mr. Kates.

150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

See course description under Geography 150.

Full course, Semester 1. Mr. Warrick.

157. INTRODUCTION TO RESOURCE MANAGEMENT.

See course description under Geography 157. Full course, Semester 2.

Mr. O'Keefe.

191. INTRODUCTION TO MAPMAKING AND CARTOGRAPHY.

See course description under Geography 191. Full course, Semester 1.

Mr. Steward.

333. TEACHING FIELD STUDIES OF ENVIRONMENTAL ISSUES.

See course description under Geography 333. Full course, Semester 2.

Mr. Kates.

Foreign Languages and Literatures

DEPARTMENT FACULTY

Walter Schatzberg, Ph.D., Professor of German, Department Chairman

Karl J.R. Arndt, Ph.D., Professor of German, Emeritus Raymond E. Barbera, Ph.D., Professor of Romance Languages J. Richard Reid, Ph.D., Professor of Romance Languages,

Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish, Director, Humanistic Studies Program

Kenneth Hughes, Ph.D., Associate Professor of German, Director, Comparative Literature Program

Comparative Literature Program
Hartmut Kaiser, Ph.D., Associate Professor of German
J. Fannin King, M.A., Associate Professor of Romance Languages
Michael K. Spingler, Ph.D., Associate Professor of French*
Paul F. Burke, Jr., Ph.D., Assistant Professor of Classics
Dorothy Kaufmann-McCall, Ph.D., Assistant Professor of French
William Ferguson, Ph.D., Visiting Assistant Professor of Spanish
Leo Ortiz-Minique, M.A., Visiting Instructor of Spanish
Elana Ashley, Ph.D., Lecturer in Hebrew Language and Literature
Gale H. Nigrosh, M.A.T., Lecturer in French
Catherine Q. Spingler, M.A., Lecturer in French

*On leave, 1978-79

UNDERGRADUATE PROGRAM

The Major in Foreign Languages and Literatures

The major in foreign languages and literatures concentrates particularly on the way in which nations may express the consciousness of their culture through literature and other arts. The interdisciplinary and humanistic spirit of the program encourages the student to relate studies in literature to other areas of the humanities and social sciences such as history, philosophy, fine arts, geography, psychology, and sociology in order to arrive at an understanding of the cultural traditions of other nations.

Requirements

 No fewer than eight courses beyond the intermediate level in one or more foreign languages.

A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with a faculty adviser.

 If the major program is concentrated in one language, a reading knowledge of a second language is recommended

4) At least one course in linguistics is recommended.

The department does not require the student to follow a rigid sequence of courses. Yet the nature of language study clearly indicates a basic progression which the typical student might follow.

Essentially, departmental offerings for the foreign language major may be organized in the following groups:

- Skill-oriented courses including conversation, composition, translation (11., 12., 100's)
- Cross-cultural courses and courses focusing on literature and the fine arts including films and theatre (100's)
- Courses in literature which concentrate on particular themes, theories, problems, critical approaches (100's, 200's)
- Courses in major figures, literary history, the styles of particular historical periods, and surveys of literature (100's, 200.s)

These groupings are not mutually exclusive and, in the case of group two, some courses in film and theatre could be considered to share some of the goals of a conversation or composition course but on a more advanced level. Similarly, it

would not be possible to address oneself to the study of a style, say that of the Baroque, without pursuing questions of critical approaches and literary theory. However, the grouping is meant to assist the student by suggesting ways of organizing his/her progress within the major, beginning with the mastering of language skills and critical methods, and then proceeding to the application of those skills and methods to particular cultural and literary areas.

The Major in Comparative Literature

The major in Comparative Literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program which in turn reflects the broadest possible frame in which to pursue the study of literature.

Requirements

- No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
- 2) Suggested sequence of core courses in Comparative Literature:
 - a) Ideally, the student should have taken Problems in Comparative Literature (CMLT. 110.) or a similar introductory comparative literature course by the end of the sophomore year.
 - b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (CMLT. 230.), Elements of Narrative (CMLT. 240.) or English Poetry (English 13.). In certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the adviser.
 - c) While a student may wish to devote his/her senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar on Literary Theory and Practice (CMLT. 251.).
- A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with a faculty adviser.

The Advisory System

Since the department believes that individual courses will assume their relevance only in the context of a total program which will have sufficient flexibility to take the student's intellectual biography into account, it emphasizes strongly the close association between student and faculty advisers. The basic role of the adviser is to work closely with the student to ensure that the program developed between them will enhance and reflect the student's scholarly growth.

Although all members of the department serve as faculty advisers, the following have been designated as advisers in the major areas of concentration offered by the department.

Comparative Literature: Mr. Hughes

French: Mr. Spingler German: Mr. Schatzberg Spanish: Mr. D'Lugo

Students are encouraged to develop a foreign languages program involving two or more languages. To discuss this possibility as well as to plan career goals and options contact Mr. Schatzberg.

Study Abroad

Students of foreign languages and literatures may study abroad either for a summer, one semester, or an entire year. Through the University's affiliation with the Institute of European Studies, campuses in Vienna, Freiburg, Paris, Nantes, Madrid, Durham, and London are readily accessible to Clark students. For further information and to explore possibilities, contact Mr. Schatzberg.

Study in Mexico

Through affiliations with the State University of Guadalajara and the Instituto Cultural Mexicano-Norteamericano (ICMN), Clark offers qualified students the opportunity to live and study for either one half or a full semester in Mexico. In both programs, students are housed with select Mexican families and pursue courses of study in diverse fields including: Spanish language, Mexican history, culture, anthropology, archeology, literature, and art

- A) Modular Term at the Instituto Mexicano-Norteamericano (ICMN) A two-part modular program offering the student a one-week orientation period at Clark with mini-seminars in language, culture, history, and literature of Mexico. The second part of the program will be a five-week residency in Guadalajara, Mexico's second largest city and center of diverse cultural and historical importance where students will take one or two units of intensive study. Activities include optional side trips to nearby sites of interest. Application due no later than the beginning of Semester two. See Mr. D'Lugo.
- B) State University of Jalisco in Guadalajara. Semester Program.

 A unique one-semester/or full-year study program. Students will be housed with select Mexican families and pursue a full academic program in the Faculty of Philosophy and Letters of the State University. All courses taught in Spanish. The student is fully integrated into campus life. All courses will be taught by Mexican faculty and are attended by Mexican students, with some qualified foreign students. High proficiency in Spanish is required. Prerequisite for application to the semester program is successful completion of the ICMN module in Guadalajara or sufficient prior experience living in a Spanish-speaking country. Deadline for application: the beginning of the semester prior to attendance at the University. Course offerings in history, literature, archeology, art history, etc. See Mr. D'Lugo.

Study in Germany: Intermediate, Advanced; Summer, Semester, Year; Work-Study

To make proficiency in German a realizable goal in a limited period of time, we have developed several study abroad programs in German that are available to students who have successfully completed German 11. or the equivalent:

Freiburg: Intermediate level semester program in German area studies involving history, political science, philosophy, literature and language. The entire semester's work is conducted in German. Prerequisite: German 11. or the equivalent. Open to all inajors.

Cologne: Work-Study May 15 - December 30
Students will take an intensive six week German language course oriented to business and management. Thereafter they will be placed with German business firms for six months with a salary of about \$400 per month. The program is equivalent to a semester's work and students will receive 2 units of credit in German and 2 units of credit in Management. Prerequisite: Intermediate German or the equivalent.

Trier: Junior Semester or Year Abroad
Study will take place at the University of Trier and is therefore open to students in all fields. Good fluency in speaking and reading German is required.

For further information on any of the above programs contact Mr. Schatzberg, Estabrook Hall 309 or call Ext. 7353.

Language Dormitories

French, German, and Spanish quads with native speakers in residence are available. Interested students should notify the department secretary.

UNDERGRADUATE-GRADUATE PROGRAM: THE B.A./M.A. PROGRAM IN COMPARATIVE LITERATURE

The B.A./M.A. Program in Comparative Literature is a course of studies integrating the last two undergraduate years with the first year of graduate work. It permits and requires a careful planning and coordination of course work, independent study and

research, and the preparation of a master's thesis over a three year period beginning with the junior year. The program, which is described in greater detail elsewhere in this *Bulletin*, is currently in its sixth year of operation. It involves as many as ten faculty members and 20 to 25 students who have a demonstrated interest in literature and literary criticism. For further information concerning the program's admission standards, requirements, methodology, and goals, contact Mr. Hughes or Mr. Schatzberg.

DEPARTMENT COURSES

A. French

B. German

C. HebrewD. Russian

E. Spanish

A. FRENCH

French 11. ELEMENTARY.

This course is for beginners with no background in the language. The course offers grounding in all four language skills (hearing, speaking, reading, writing) as preparations for subsequent courses conducted in the language. Individual work will be done in the language laboratory. Indivisible course.

Full course, Semesters 1, 2.

Ms. Spingler.

French11. ELEMENTARY (ADVANCED SECTION).

The course offers a fresh start for students with some previous exposure to the language, but who are not yet prepared to enter the intermediate course. It is designed to impart an active knowledge of French, through grammar study and oral practice, in class and in the language laboratory with integrated short readings in French.

Full course, Semesters 1, 2,

Ms. Nigrosh.

French 12. INTERMEDIATE FRENCH.

This is a review of French grammar with emphasis on writing and speaking. There will be reading and discussion of provocative works in journalism, fiction, theater, and poetry to acquaint students with significant personalities and ideas in French life. Also included are group projects on cross-cultural themes in class and individual work in the language laboratory. Prerequisite: French 11. or equivalent background, to be determined by instructor. Divisible course.

Full course, Semester 1. Full course, Semester 2.

Ms. Nigrosh, Ms. Spingler. Ms. Kaufmann-McCall, Staff

French 106. SPECIAL TOPICS IN FRENCH.

Variable credit, Semesters 1, 2, Modular Term.

French 127. SPEAKING FRENCH: INTERMEDIATE LEVEL.

The goal of the course is to increase the oral fluency of the student at the intermediate level. Some class discussions will focus on examples of French culture in our own environment. Trips around Worcester and Boston to see films and visit museums will provide the stimuli for these discussions. Other topics of conversation will be based on group interest. Prerequisite: French 12. Full course, Modular Term.

French 129. SKILLS AND TECHNIQUES IN READING FRENCH.

This course provides a transition from speaking to reading with ease and understanding for the student who has the fundamentals of the French language. Starting with easy contemporary French (a novel of Georges Simenon), the class progresses through a one' experience with French poetry to the somewhat more difficult French of Jean-Paul Sartre in two of his plays (*Huis-clos* and *Les Mouches*). A textbook helps increase vocabulary, understanding of French syntax and idiomatic structure, and other reading skills Close attention is given in class to the precise meaning of words.

phrases, verb tenses, etc. Prerequisite: French 12., or equivalent skill in the language to be determined by consultation with professors.

Full course, Semester 1.

Mr. King.

French 130. READINGS IN FRENCH LITERATURE.

This course is logical in sequence to French 129., but not requiring French 129. as prerequisite, continued close attention to vocabulary, idioms, sentence structure, exact meaning of phrases and sentences. Increased attention is given to artistic effects and stylistic values. Readings: Simenon, *Collected short stories*; Anouilh, *Antigone*; and a selection of twentieth-century works. Prerequisite: French 129., 131., or equivalent.

Full course, Semester 2.

Mr. King.

French 131. READINGS IN FRENCH.

This course is designed for students at the third-year level who wish to enhance their skills in reading, writing, understanding, and speaking French. Modern French texts will be chosen for their intrinsic interest and for their linguistic accessibility. There will be class discussions in French. Prerequisite: second semester of French 12., or permission of the instructor.

Full course, Semester 1.

Ms. Kaufmann-McCall

French 132. READINGS IN FRENCH.

The course is primarily intended as a sequel to French 131., (see description above). Prerequisite: French 129., or higher level course, or permission of the instructor.

Full course, Semester 2.

Ms. Kaufmann-McCall.

French 137. ORAL FRENCH.

The aim of this third-year course is to perfect skills in spoken communication. In this semester of a two-semester course, particular attention is given to the sounds of French and to its rhythm and melodic patterns. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the Language Laboratory. Prerequisite: Grade of B — or higher in French 12., or equivalent skill in the language, to be determined by a placement test; permission of instructor.

Full course, Semester 1.

Mr. King.

French 138. ORAL AND WRITTEN FRENCH.

The aim of this third-year-level course is to perfect skills in communication both oral and written. This is the second semester of French 137, but does not require French 137., as prerequisite. In this semester, increasing attention is given to grammatical patterns and written French and fluency in the spoken language. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the Language Laboratory. Prerequisite: Grade of B— or higher in French 12., or equivalent skill in the language, to be determined by a placement test; permission of instructor. Full course, Semester 2.

French 140. ASPECTS AND PROBLEMS OF CONTEMPORARY FRANCE. Not offered, 1978-79.

This is a cross-cultural course concentrating on the evolution in the twentieth century of traditional French values, myths, and social institutions. The course will recognize the critical stance assumed by such *French* critics of France as Jean-Francois Revel in his works, *En France* and *Ni Marx Ni Jesus*. Particular attention will be paid to the historical and social background of the students and workers protest and strike known as the Events of May 1968. Additional source material will consist of films, novels, and periodicals. Conducted in French. Prerequisite: French 130., or higher level course or permission of instructor.

Mr. Spingler.

French 150. FRENCH CINEMA.

The course includes analysis of the films of one or more major French filmmakers. Readings include film scripts, criticism, and source texts. Conducted in French. Prerequisite: French 130. or permission of instructor.

Full course, Semester 1.

Staff.

French 160. THE FILMS OF JEAN RENOIR. Not offered, 1978-79. The course includes analysis of the cinematic language and aesthetic of Jean Renoir with particular attention to the way in which they reflect French traditions, mental structures, and social values. Readings will include film scripts, film criticism, and source texts. Attendance at approximately 8-10 films will be required. Conducted in French. Prerequisite: French 130., or permission of instructor.

Full course.

Mr. Spingler.

French 165. FRENCH PLAY PRODUCTION. Not offered, 1978-79. This is a course designed to provide direct experience of the theatrical synthesis within which the play and the actor operate. The course will concentrate on one playwright, studying him in terms of all the problems peculiar to the staging of his plays — sets, props, costumes, acting styles, gestures, and blocking. The practical aspects will be synthesized with academic research into the dramaturgy, themes, social context, and style of the author's period. Possible playwrights to be studied: Moliere, Marivaux, Ionesco, Beckett. Prerequisite: speaking knowledge of French and permission of instructor. Conducted in French.

Full course.

Mr. Spingler.

French 170. ESSAYS OF THE SELF. Not offered, 1978-79. This course is a study of modes of subjectivity in the French tradition through seminal works of self-analysis and autobiography. We will explore the relationships between self-expression, self-creation, and philosophy. Texts will include Montaigne, Essais; Pascal, Pensees; Rousseau, Les Confessions; Baudelaire, Moncoeur mis a nu; Colette, La Naissance du jour; Sartre, Les Mots. Students will be asked to keep a journal of their readings. Conducted in French. Prerequisite: one third-year-level course, or permission of instructor.

Full course. Ms. Kaufmann-McCall.

French 175. SARTRE AND CAMUS.

This is a study of major literary works by Sartre and Camus in the context of each writer's philosophical and political theories. Conducted in French.

Full course, Semester 1.

Ms. Kaufmann-McCall.

French 180. TOPICS IN MODERN FRENCH LITERATURE.Full course, Semester 1. Staff.

French 206. SPECIAL TOPICS IN FRENCH.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

French 208. TEACHING LAB IN FRENCH.

A teaching apprenticeship experience is offered to graduate students and to exceptional undergraduates who have demonstrated potential capability in this area. The teaching apprentice, under the supervision of the regular course instructor, is gradually exposed to all the aspects involved in teaching a foreign language course (planning and organization, preparation, presentation, evaluation) and is encouraged to become a coteacher to the greatest extent possible.

Full course, Semesters 1, 2. Staff.

French 230. IMAGES OF WOMEN IN THE FRENCH NOVEL: MEN CREATING WOMEN. Not offered, 1978-79.

Through the historical examination of a tradition which has been central in shaping our notions of women and of love, we will try to come to some understanding of the roles of women in the male imagination, and how these roles have affected women's fantasies and realities. Readings will include *Tristan et Iseut, La Nouvelle Heloise, Les Liaisons Dangereuses, Madame Bovary, Une Vie, Nadja, L'Histoire d'O,* with reference throughout the course to relevant historical and theoretical texts. Conducted in French. Full course.

Ms. Kaufmann-McCall.

French 232. IMAGES OF WOMEN IN THE FRENCH NOVEL: WOMEN CREATING WOMEN. Not offered, 1978-79.

Through the historical study of women writers in France, we will examine the notion of feminine sensibility and try to understand how each writer's sense of herself as a woman affects her writing. Readings will include works by and about Mme. de Lafayette, Mme. de Stael, George Sand, Colette, Simone de Beauvoir, Christiane Rochefort, Monique Wittig. Conducted in French. Ms. Kaufmann-McCall. Full course.

French 241. GENERAL VIEW OF FRENCH LITERATURE, CHARLEMAGNE TO LOUIS XIV.

The course covers the period from the Middle Ages through the Age of Louis XIV. It involves an interpretation of the main currents of French literature from the Chanson de Roland through the period of the great classicists of the seventeenth century. Each period is studied concentrating on a limited number of authors of schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Full course, Semester 1. Mr. King.

French 242. GENERAL VIEW OF FRENCH LITERATURE, VOLTAIRE TO PROUST.

The course studies the period from the beginning of the Age of Enlightenment to the Early Twentieth Century. It involves an interpretation of the main currents of French literature between the age of Louis XIV and the First World War. Each period is studied concentrating on a limited number of authors or schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Prerequisite: Grade of B- or higher in a third-year course. Full course, Semester 2. Mr. King.

French 251. MEDIEVAL AND RENAISSANCE FRENCH LITERATURE. Not offered, 1978-79.

This is a study of the literature of France from the twelfth through the sixteenth century. In the medieval period (1100-1500) the outstanding literary achievements will be studied, with particular emphasis on the Chanson de Roland, the Roman de Tristan et Iseut and the poetry of Francois Villon. In the renaissance period (1500-1630), particular emphasis will be placed on the works of Rabelais, Montaigne, and the Pleiade poets Ronsard and DuBellay. Conducted in French. Full course.

French 253. FRENCH POETRY FROM CHENIER TO VERLAINE.

Not offered, 1978-79. The course studies the period from the rebirth of lyric verse at the time of the French Revolution through the romantic outburst, the Parnassian perfection, to Baudelaire and his followers in the symbolist movement. Poets to be emphasized: Chenier, Hugo, Vigny, Heredia, Baudelaire, Verlaine. Prerequisite: permission of instructor. Conducted in French. Full course. Mr. King

French 255. THE MODERN FRENCH THEATER.

Not offered, 1978-79. This is a study of the origins and development of le theatre nouveau with emphasis on dramaturgy and mise en scene. The focus of the course is upon the theater since 1950 especially Ionesco, Beckett, Genet, and Arrabal, but the course also explores the affinities between these playwrights and the Dada and Surrealist movements, and studies three precursors: Jarry, Ghelderode, and Artaud. Conducted in French. Full course, Semester 2. Mr. Spingler.

French 256. THE MODERN FRENCH NOVEL.

Not offered, 1978-79. This is a study of major innovative novels in twentieth-century French literature. Texts will include Proust, Combray; Gide, Les Faux Monnayeurs; Malraux, La Condition humaine; Sartre, La Nausee; Camus, La Chute; Nathalie Sarraute, Entre la vie et la

mort. Prerequisite: at least one course beyond French 131., or permission of instructor. Conducted in French. Full course. Semester 1. Ms. Kaufmann-McCall.

French 258. EXPERIMENTS IN SELF-CONSCIOUS NARRATIVE: NOVEL AND Not offered, 1978-79. AUTOBIOGRAPHY.

This is a study of contemporary French prose from the point of view of the author's self-affirmation through narrative. The problem of a possibly blurred division between fact and fiction, history and myth, will be explored through a study of novels and autobiographies of Gide, Sartre, Genet, Beckett, Michel Leiris, and Henri Michaux. Conducted in French. Full course. Mr. Spingler.

French 261. SENIOR TUTORIAL FOR MAJORS.

A program of extensive readings and of tutorial meetings is designed to provide students with a broad view of the whole of French literature. The readings will be planned individually for each student in order to complement previous course work. Full course. Semesters 1, 2.

French 270. THE EXPERIENCE OF POETRY.

Not offered, 1978-79. Given in French, this course will attempt, through lecturediscussions, readings and explications de texte, to clarify the poetic experience (What is poetry? How is the poetic experience produced? How is it communicated?) After a preliminary study of French prosody (structure, meter, rhyme, technical effects, and so forth), French poetry of all periods (eleventh to twentieth centuries) and all genres (lyric, dramatic, epic, didactic, etc.) will serve as the material on which to base the study of the basic problem of the course as stated above. Prerequisite: permission of instructor.

Full course. Mr. Kina.

French 271. THE FRENCH DRAMATISTS OF THE Not offered, 1978-79. 17TH CENTURY.

This is a study of the plays of Corneille, Racine, and Moliere, their intrinsic literary values, their importance in the history of French literature, and their relationship to the literature of other nations. Conducted in French.

Full course.

B. GERMAN

Mr. Kina.

Conducted in French.

German 11. INTRODUCTORY GERMAN.

This course is designed to impart an active command of the German language. It combines the study of grammar with oral practice and readings in literary and expository prose. Indivisible course

Full course, Semester 1. Full course, Semester 2.

Mr. Kaiser, Mr. Schatzberg.

German 12. INTERMEDIATE GERMAN.

This is a review of German grammar. There will be reading and discussion of selections adapted from German-language newspapers and magazines. Significant works in prose, poetry, and drama will be studied to acquaint students with outstanding writers and ideas in German literature and culture. A fourth hour, to be arranged, will be devoted to viewing and discussion of short German films. Also there will be individual work in the language laboratory and weekly written assignments. Prerequisite: German 11., or equivalent background in the language.

Full course, Semester 1. Full course, Semester 2.

Ms. Kaiser, Mr. Kaiser. Mr. Kaiser.

German 106. SPECIAL TOPICS IN GERMAN.

Variable credit, Semesters 1, 2,

Staff.

Mr. Kina.

German 127. DRAMATIC EXPRESSION IN GERMAN.

Not offered, 1978-79.

This course provides the more advanced student of the language

with the opportunity to refine and practice the habits of gesticulation, intonation and rhythm which characterize contemporary spoken German. Under close supervision, the class studies and learns one or more contemporary plays with a view to eventual production or dramatic reading of the piece(s). Emphasis is placed on pronunciation and gesture, and on the development of those intonational refinements appropriate to the interpersonal situations of the texts studied. Although discussion of the dramatic works as literature is clearly necessary, it should be noted that the course is essentially an advanced language course. Active participation of all students is required. Examination consists in the preparation of a dramatic passage which the student has prepared outside of class. Prerequisite: German 12. or equivalent. Full course. Mr. Hughes.

German 128. SPOKEN AND WRITTEN GERMAN.

Not offered, 1978-79. This third-year-level course aims at strengthening good speech habits with regard to German grammar and syntax, at expanding the active vocabulary, and at improving the students' ability to express themselves in writing. Literary and journalistic texts will serve as a basis for discussion of important issues in contemporary German. Weekly written assignments. Recommended for majors and as preparation for German 132. Prerequisite: German 12., or equivalent. Full course. Mr. Kaiser.

German 132. ADVANCED COMPOSITION AND CONVERSATION.

This course is designed to develop accuracy and fluency of oral and written expression. It includes review of selected problems of grammar and exercises in idiomatic use of the language; reading and analysis of fictional as well as nonfictional texts documenting political, social, and cultural developments in Germany during the past 50 years; oral reports; weekly compositions. Required of majors. Prerequisite: German 12., or equivalent; permission of instructor.

German 134. WORKSHOP IN TRANSLATION. The object of this course is to give students a practical, concrete experience of what it means to "translate" from one language into another. The student will see that the process is not nearly so simple as it may have seemed, but that there is a scale of texts which range from the relatively easy to those that virtually defy rendering into another tongue. In the more difficult cases, it will be demonstrated that there is no such thing as a mere rendering of a text into another language, but that the process in, say, poetry, requires transposition of a whole cultural reflex into another. Various kinds of texts will be examined, from the sober style of the scientific article to the emotionally charged language of lyric

Full course, Semester 2.

Full course, Semester 1.

Mr. Hughes.

Full course.

Mr. Kaiser.

German 138, MODERN GERMAN DRAMA.

This course involves reading and interpretation of selected plays by Brecht, Frisch, Durrenmatt, Grass, Weiss, and Handke. Also included are discussions, oral, and written reports in German. Dramatic readings of selected scenes will be practiced with a view to introducing the element of performance in the interpretation of a text. Prerequisite: German 12., or equivalent. Full course, Semester 1. Ms. Bernstein.

German 140. RATIONALISM AND IRRATIONALISM IN 19TH CENTURY GERMAN LITERATURE.

This course examines the interface between Classicism and Romanticism in the late eighteenth and early nineteenth centuries. a time which witnessed a shift in sensibilities and in the way people felt themselves related to the universe. This shift in feeling is, of course, only a matter of emphasis, but the new feelings which came to be emphasized contributed greatly to laying the foundations of the modern age. The different values are studied as they find their expression in literature, music, painting, sculpture, and landscape design. Conducted in German. Full course. Semester 1. Mr. Hughes.

German 142. GERMAN ROMANTICISM. Not offered, 1978-79. This is an analysis of German Romanticism from its beginning in the 1790's to its decline in the 1830's. Aesthetic credos, lyric poetry, the drama, major prose works (among them the fairy tale as an art form) will be discussed in their relation to the intellectual history of the period. Authors include the Schlegel brothers, Holderlin, Novalis, Tieck, Wackenroder, Kleist, Brentano. E.T.A. Hoffman, Eichendorff, and Heine. Prerequisite: German 12., or equivalent. Full course. Mr. Kaiser.

German 145. THE GERMAN NOVELLE. Not offered, 1978-79. The course is an historical and critical study of this uniquely German genre. Particular attention will be paid to narrative technique and to the typical features of the novelle distinguishing it from the short story on the one hand and from the novel on the other. Selections range from Early Romanticism to Thomas Mann. Where applicable, a number of poems by the author under consideration will be discussed. Prerequisite: German 12., or equivalent. Full course. Mr. Kaiser.

German 155. 19TH CENTURY GERMAN LITERATURE.

Not offered, 1978-79.

The course is a study of post-Romantic movements ("Biedermeier," Young Germany, Poetic Realism) and their relation to intellectual and social trends. It includes discussion and analysis of representative dramatic and narrative works as well as poetry by Grillparzer, Gotthelf, Droste-Hulshoff, Morike, Stifter, Heine, Buchner, Keller, Storm, Meyer, Fontane. Prerequisite: German 12., or equivalent, Full course. Mr. Kaiser.

German 162. GOETHE'S FAUST. Not offered, 1978-79. The course involves reading and interpretation of Goethe's Faust I and II; discussions, oral, and written reports in German. Prerequisite: German 12., or permission of instructor. Full course. Mr. Schatzberg.

German 166. GERMAN DRAMA FROM LESSING TO EXPRESSIONISM. Not offered, 1978-79.

The course includes reading and discussion of representative plays by the chief German dramatists from the end of the eighteenth to the early twentieth century. The course will focus on the sociopolitical aspects of these works, on the aims and concepts of the dramatic art and the changing traditions of playwriting. Authors include Lessing, Goethe, Schiller, Kleist, Grillparzer, Buchner, Hebbel, Hauptmann, Schnitzler, and Kaiser. Prerequisite: German 12., or equivalent. Full course. Mr. Kaiser.

German 170. THOMAS MANN. Not offered, 1978-79. This is a concentrated study of the short stories and of the novel Felix Krull. Mann's development is traced from his early aestheticism and cultural pessimism to his later avowal of democratic socialism and historical optimism. Discussions of Nietzsche, Schopenhauer, Wagner, and Freud will illuminate Mann's changing perspective and artistic values and will take into account some reading in the historical background of the time. Conducted in German.

German 172. NATURALIST AND EXPRESSIONIST DRAMA.

Not offered, 1978-79,

Mr. Hughes.

The course studies drama during the last quarter of the nineteenth and the first quarter of the twentieth centuries. Writers to be read include Hauptmann, Schnitzler, Kaiser, Wedekind, Hofmannsthal, Barlach, and Brecht; themes include decadence and

impressionism. The dramatic "movements" will be related to the social and aesthetic theories which underlie them. This half century is extremely diverse and politically unstable in Germany and Austria; some reading in the cultural and historical background will be necessary. Conducted in German.

Full course.

Mr. Hughes.

German 190. GOETHE.

This is a study of Goethe's work as poet and thinker through selected readings of his poetry, plays, prose, and critical essays on art and science. Prerequisite: permission of instructor. Conducted in German.

Full course, Semester 2.

Mr. Schatzberg.

German 192. SCHILLER AND KLEIST. Not offered, 1978-79. This is a study of major literary works of Schiller (drama, poetry) and Kleist (drama, narrative prose). The works will be considered in terms of the historical epoch in which they were written. Discussion will focus on structural, moral, socio-political, and existential aspects. Conducted in German. Prerequisite: German 12., or equivalent.

Full course.

Mr. Kaiser.

German 206. SPECIAL TOPICS IN GERMAN. Variable credit, Semesters 1, 2.

Staff.

GERMAN COURSES CONDUCTED IN ENGLISH

German 116. COLLOQUIUM ON MODERN GERMAN

LITERATURE. Not offered. 1978-79.

The purpose of this course is to examine some of the dominant themes in modern German literature and to acquire skill in interpreting literary works. Enrollment is limited to assure every student the opportunity for active participation. Conducted in English.

Full course.

Mr. Schatzberg.

German 130. THE MODERN GERMAN NOVEL.

The course reviews selected works of Gunter Grass, Hermann Broch, Thomas Mann, Heinrich Boll, Max Frisch, and other writers from the German language areas of East and West Germany, Austria, and Switzerland. Emphasis is not so much on the development of the twentieth century novel as it is on understanding each of the works in its historical, social, and conventional context. This course, which is conducted in English, is also available for credit in German. Those choosing this option will read several of the works in German and meet in extra sessions where the work will be discussed in German. Full course, Semester 1.

German 152. THE MEDIEVAL GERMAN EPIC.

Not offered, 1978-79.

Around the year 1200, a number of epic masterpieces were produced in Germany which have taken their place in world literature. The following works, which represent the finest examples of the heroic and courtly epic tradition in German literature, will be studied: *The Nibelungenlied*, Hartmann von Aue's *Gregorius*, Wolfram von Eschenbach's *Parzival*, and Gottfried von

Strassburg's *Tristan*. The structure of medieval society, religious ideals, the chivalric code as well as Germanic mythology, the legends of the Celtic King Arthur, and historical events, especially the Crusades, will be dealt with to the extent they are reflected in these works. Conducted in English.

Full course.

Mr. Kaiser.

German 168. MUSIC IN GERMAN LITERATURE AND THOUGHT.

Countless musicians, philosophers, and writers have speculated on the nature of music, its mysterious power to influence people and to communicate strong feelings. This course will be devoted to reading and discussion of works by the following authors from the German-speaking countries of the nineteenth and twentieth centuries: Wackenroder, Novalis, Kleist, Schopenhauer, E.T.A. Hoffmann, Goethe, Grillparzer, Heine, Morike, Wagner, Nietzsche, Hesse, and Thomas Mann. The approach will be predominantly thematic; however, several works will be studied which reveal the author's successful attempts to employ musical devices and structures in his literary creations. Conducted in English.

Full course. Semester 2.

German 183. KAFKA SEMINAR.

The course involves a careful study of Kafka's novels, short stories, parables, and aphorisms. Prerequisite: some familiarity with the major short stories and novels of Kafka. Conducted in English.

Full course, Semester 2.

Mr. Schatzberg.

C. HEBREW

Hebrew 11. ELEMENTARY HEBREW.

Emphasis is on the spoken, living Hebrew language. Students will acquire vocabulary and basic grammar through reading of simple texts. Part of the course is audio-visual method of "Habet U Shma." There will be three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Indivisible course.

Full course, Semester 1.

Full course, Semester 2.

Ms. Ashley.

Hebrew 12. INTERMEDIATE HEBREW.

The course consists of reading of graded texts: selected works from modern Hebrew literature, newspapers, etc.; enrichment and reinforcement of grammatical structures and written expression. There will be three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Prerequisite: the equivalent of Hebrew 11.

Full course, Semester 1.

Full course, Semester 2.

Ms. Ashley.

Hebrew 130. ADVANCED HEBREW.

This is a language-literature course based on readings of simple texts in contemporary Hebrew prose, drama, poetry. Students will study advanced grammar and composition, with emphasis on the



spoken language. Prerequisite: Intermediate Hebrew or the equivalent.

Full course, Semester 1. Full course, Semester 2.

Ms. Ashley.

Hebrew 119. HEBREW SCRIPTURES-PENTATEUCHAL AND HISTORICAL BOOKS.

Not offered, 1978-79.

The course is a survey and critical analysis of Genesis, Exodus, Leviticus, Numbers, Deuteronomy, Joshua, Judges, Samuel, and Kings. Conducted in English.

Full course. Mr. Davids.

Hebrew 120. THE PROPHETS OF ISRAEL. Not offered, 1978-79. This course will be directed toward a study of the prophets as men of thought. Emphasis will be placed upon the development of prophetic literature, the psychology of prohecy, the prophet as religio-political activist, and the prophet as spokesman for ethical idealism. Study will focus upon Elijah (ecstatic prophecy), First Isaiah (prophetic hope), Jeremiah (religious reformation), Ezekiel (Diaspora Judaism), Amos (the prophet as social critic), Hosea (divine love), and Micah (reflections on the future). Conducted in English.

Full course. Mr. Davids.

Hebrew 121. WISDOM LITERATURE.

The Wisdom Literature within the Hebrew Scriptures represents creative interaction between the Hellenistic and Jewish worlds. This course will focus upon the Book of Job, Ecclesiastes, Proverbs, and Song of Songs. We will explore practical as well as philosophical wisdom, with a special focus on the great issues of life raised by the authors. No prerequisites in the area of language or Bible study. Conducted in English.

Full course, Semester 2.

Hebrew 150. THE CULTURE OF EAST EUROPEAN JEWRY.

This course is an introduction to the literature, folklore, and history of the Jews of Eastern Europe from the sixteenth to the twentieth century. The distinctive contributions of both the Jewish little-town (shtetl) and the larger urban community will be explored. Conducted in English.

Full course, Semester 2. Mr. Goldsmith.

Hebrew 160. MODERN JEWISH THOUGHT.

The course examines nationalism, culture, ethics, and religion in the writings of the leading Jewish thinkers of the nineteenth and twentieth centuries. Thinkers to be studied include N. Krochmal, Geiger, S.R. Hirsch, H. Cohen, Ahad Haam, A. D. Gordon, Rosenzweig, Buber, Kaplan, and Heschel. Topics to be discussed include: modern definitions of Judaism, universalism and ethnicity, Zionism, Judaism and Christianity, the relevance of the Bible, ethics in Jewish thought, reinterpreting traditional ideas of God and Torah. Conducted in English.

Full course. Semester 1.

Mr. Goldsmith.

Hebrew 185. TRENDS AND VALUES IN YIDDISH
LITERATURE. Not offered, 1978-79.

The course is an outline of the major lines of development from the folk literature of the sixteenth century to the contemporary short story, novel, essay, and poem. Yiddish literature will be viewed both as an aspect of world literature and as a major factor in the preservation and enhancement of the specific distinguishing characteristics of the Jewish experience. Conducted in English. Full course.

Mr. Goldsmith.

D. RUSSIAN

Clark students may take additional courses in Russian language and literature at the College of the Holy Cross through the Consortium.

Russian 11. INTRODUCTORY RUSSIAN.

This course is an introduction to the written and spoken language

It consists of four class periods and three laboratory sessions a week. Indivisible course.

Full course, Semesters 1, 2. Mr. Hughes.

Russian 12. INTERMEDIATE RUSSIAN. Not offered, 1978-79. This is a course in advanced Russian grammar with continued emphasis upon reading and conversation. There will be three class periods, one supervised drill session, and three laboratory sessions a week. Open to qualified freshmen.

Full course. Mr. Hughes.

Russian 106. DIRECTED READING.

Students interested in specific authors and/or topics in Russian literature and civilization may receive instruction and guidance in either English or Russian.

Variable credit, Semesters 1, 2. Mr. Hughes.

E. SPANISH

Spanish 11. ELEMENTARY.

This course is for beginners or others not yet qualified to enter the intermediate courses. Students receive grounding in all four language skills (hearing, speaking, reading, writing) as preparation for subsequent courses conducted in the language. There will be three class meetings a week plus individual work in the language laboratory. Indivisible course.

Full course, Semesters 1, 2.

Mr. Ferguson, Mr. Ortiz.

Spanish 12. INTERMEDIATE.

The course offers consolidation of basic skills in the language for students who have previously completed Spanish 11., or its equivalent. First semester stresses development of oral facility in Spanish through a variety of exercises including: taped interviews with native-speakers, improvisational acting in brief scenes from plays, and discussions based upon readings related to topics of Hispanic society and culture. Grammar review will be based upon the specific needs of the group. Prerequisite: Spanish 11., or equivalent skill in the language.

Spring semester will include more extensive readings on themes of Hispanic culture as the basis for class discussion and essay assignments. The focus of the spring semester will be those activities in speaking, reading, and writing which will provide the students with sufficient mastery of basic skills in Spanish so as to allow for reasonable adjustment to advanced course work in Hispanic studies.

Full course, Semester 1. Full course, Semester 2.

Mr. D'Lugo. Mr. Barbera.

106. SPECIAL TOPICS IN SPANISH.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

Spanish 127. PRACTICE IN ORAL AND WRITTEN SPANISH.

This is an advanced intermediate course to help students develop fluency and accuracy in the spoken and written language. Classes will stress composition and pronunciation, as well as conversation practice. The course is intended primarily for freshmen who have completed two to three years of high school Spanish.

Full course, Semester 2.

Mr. Ferguson.

Spanish 131. READINGS IN MODERN SPANISH AMERICAN LITERATURE.

Variable content. Theme, 1978: CONCIENCIA Y SOCIEDAD.

The course consists of readings and discussion of the relationship between individual artistic consciousness and society in Spanish America as reflected in the works of representative authors of Chile, Argentina, Peru, Mexico, Colombia, and Cuba. Authors to be read include Garcia Marquez, Donoso, Cortazar, Rulfo, and Neruda. Conducted in Spanish. Prerequisite: Spanish 12., or equivalent skill in the language.

Full course, Semester 1.

Mr. Ferguson.

FOREIGN LANGUAGES AND LITERATURES 71

Spanish 132. INTRODUCTION TO SPANISH LITERATURE OF THE 20TH CENTURY.

The course offers reading and discussion of selected works from the Generation of 1898 to the contemporary period (Unamuno, Pio Baroja, Garcia Lorca, Cela, Buero Vallejo, Sastre). Emphasis is on conflictual structures within dramatic and narrative works: individual vs. the group as seen particularly in the Civil War and its effects on subsequent literary and social development in Spain. Prerequisite: Spanish 131., or permission of instructor. Full course, Semester 2. Mr. Ortiz.

Spanish 133. HISPANIC THEMES.

This is a third-year course of readings and discussions intended to introduce the student to the diversity of Hispanic culture through a close consideration and analysis of a limited number of problems as reflected in selected readings from literature, history, cultural anthropology as well as current periodicals in Spanish. The course will focus on one or two of the following national cultures: Chile. Cuba, Mexico, Spain, Argentina. Topics normally covered include: parallel development of Anglo-American and Hispanic cultural institutions; changing identity of the family and the individual in twentieth century society; the emerging identities of women in these societies and a comparison with traditional Hispanic definitions of women's role. Readings and discussions will be in

Full course, Semester 2.

Mr. Ferguson.

Spanish 135. HISPANIC ETHOS AND CINEMA:

THE FILMS OF LUIS BUNUEL. Not offered, 1978-79. Classes will consist of viewing, discussion, and analysis of the major films of Luis Buñuel in the context of the cinematic medium as well as in the broader tradition of a particular critique of Hispanic social values. The recurrent motifs of catholicism and the church, charity, violence, and sexual repression will be examined as cinematic form and substance. Readings will include film scripts, film criticism, and source novels. Conducted in Spanish. Prerequisite: Spanish 131., or permission of instructor. Attendance at ten film showings during the semester (approximately one weekly) will be required of students taking the course for credit. All films will be subtitled in English. Full course. Mr. D'Lugo.

Spanish 136. WOMEN'S ROLE IN SPANISH LITERATURE.

Selected works will be studied with a focus on the role of women in the literature of Spain throughout the centuries. Prerequisite: Spanish 12., or an equivalent skill. Full course, Semester 2. Mr. Barbera.

Spanish 137. ORAL AND WRITTEN SPANISH.

Not offered, 1978-79. A third-year level course, this is a rapid review of grammar and stylistics, with exercises in composition, pronunciation, and intonation. It is intended to allow the student with one or more years of advanced college work in Spanish (or equivalent) the opportunity for refinement and mastery of both written and spoken Spanish. Emphasis will be placed upon control and accuracy of expression in writing through regular compositions and translation exercises, as well as work in phonetics and diction. Prerequisite: Spanish 131., and one course above that level. Full course. Mr. Barbera, Mr. Ortiz.

Spanish 140. SPANISH DRAMATIC EXPRESSION/PLAY PRODUCTION. Not offered, 1978-79.

This course is intended to provide the student who has completed Spanish 12., or equivalent, with an opportunity to develop and refine habits of gesticulation, rhythm, and intonation which characterize contemporary spoken Spanish. The course will include close work on two contemporary dramatic works which will give the student practical experience in the skills of interpersonal encounters in which control of oral expression is required.

Although some consideration will be given to the texts as dramatic works, the principle of this course is a workshop in advanced oral Spanish. Prerequisites: Spanish 12., or equivalent skill in the language.

Full course.

Mr. D'Lugo, Mr. Ortiz.

Spanish 141. SPANISH TRANSLATION WORKSHOP.

As the title indicates, this is a workshop, and not a descriptive course in the techniques of translation. The purpose of the course is to enable students to translate printed data (commercial. technical, scientific, print, comic strips, etc.) from Spanish into English and vice-versa. The course will be based on a linguistic approach and will consist of formal sessions in which this basic theory and its diverse techniques will be taught, plus the workshops. During the workshops, printed materials will be distributed among the students for them to translate. The workshop sessions will be the testing ground for the theory exposed during the "magisterial" lessons. Other exercises will cover these aspects: Morphemes, lexicon and cognates, syntagmatic sequences, clauses and sentences. Paragraph and "textual" translation will be dealt with separately. Prerequisites: Language majors: four college semesters of Spanish or its equivalent. Linguistics majors: a course in at least one of the following: General linguistics, theoretical linguistics, transformational grammar, semantics. Spanish 131., or permission of instructor Full course, Semester 1. Mr. Ortiz.

Spanish 143. SPANISH ESSAY AND THOUGHT.

The course consists of readings and discussions of selected essays from influential writers of Spain and Spanish America as these express the cultural, social, political, and ethnic values and concerns of the Spanish-speaking people. Readings will reflect both the traditional notions of Hispanic society as well as contemporary views as posed in recent magazines, periodicals, and newspapers. Prerequisite: Spanish 131., or permission of instructor. Full course, Semester 1.

Mr. Ortiz.

206. SPECIAL TOPICS IN SPANISH.

Variable credit. Semesters 1, 2, Modular Term.

Staff.

207. FIELD WORK IN THE HISPANIC COMMUNITY.

Students will have supervised contact and work in one of a variety of community agencies and projects servicing the Hispanic community in Worcester (Bilingual school programs, Casa de la comunidad, Worcester Legal Services, etc.). Students participating in particular field projects will be assigned to a member of the department and/or persons in related academic departments. Under the direction of the adviser, students will be placed in a particular community project. Through consultation with the campus adviser and a designated supervisor from the cooperating agency the student will work first-hand with members of the Hispanic community while developing a written project related to the particulars of language, culture, and related problems of the bilingual community in Worcester. Prerequisites: proficiency in Spanish as determined by the department; successful completion of course work in the field or fields related to the specific project area; permission of instructor. Variable credit, Semesters 1, 2, Mr. D'Lugo, Ms. Nigrosh, Staff.

Spanish 245. THE MODERN SPANISH NOVEL.

A number of nineteenth century novels will be read. The twentieth century will be represented by such outstanding novelists as Galdos (who bridges the nineteenth and twentieth centuries), Unamuno, Valle-Inclan, Baroja, and Delibes. Conducted in Spanish. Prerequisite: Grade of B - or higher in a third-year course above Spanish 131. Full course, Semester 2. Mr. Barbera.

SPANISH COURSES CONDUCTED IN ENGLISH

Spanish 272. AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE.

This is a cluster course in which literature, geography, and philosophy provide integrated perspectives on the phenomenon of the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical, geographic, economic, literary, architectural, and other cultural dimensions of Hispanic, Anglo-American, and European notions of the city. Conducted in English. (See also Comparative Literature 272.)

Full course, Semester 1.

Mr. D'Lugo.

Film Studies

(See Department of Visual and Performing Arts.)

French

(See Department of Foreign Languages and Literatures.)

Geography

DEPARTMENT FACULTY

Leonard Berry, Ph.D., Professor of Geography, Acting Director Graduate School of Geography, Co-Director International Development Program

Martyn J. Bowden, Ph.D., Professor of Geography
Gerald J. Karaska, Ph.D., Professor of Geography, Editor of
Economic Geography

Roger E. Kasperson, Ph.D., Professor of Geography and

Government & International Relations

Robert W. Kates, Ph.D., Professor of Geography and Research Professor

Duane S. Knos, Ph.D., Professor of Geography
Raymond E. Murphy, Ph.D., Professor of Economic Geography
Emeritus

Henry J. Warman, Ph.D., Professor of Geography Emeritus Anne Buttimer, Ph.D., Associate Professor of Geography** Douglas L. Johnson, Ph.D., Associate Professor of Geography* William A. Koelsch, Ph.D., Associate Professor of History and Geography, University Archivist

Laurence A. Lewis, Ph.D., Associate Professor of Geography
J. Richard Peet, Ph.D., Associate Professor of Geography***
Harry J. Steward, Ph.D., Associate Professor of Geography
Arthur J. Krim, A.B.D., Visiting Lectures in Geography
David C. Maior, Ph.D., Visiting Lectures in Geography

David C. Major, Ph.D., Visiting Lecturer in Geography Part-time Phillip O'Keefe, Ph.D., Visiting Lecturer in Geography

Harry E. Schwarz, B.C.E., Visiting Professor of Environmental Affairs, Adjunct in Geography

John E. Seley, Ph.D., Visiting Associate Professor of Geography Peter R. Taylor, Ph.D., Visiting Associate Professor of Geography Richard A. Warrick, Ph.D., Visiting Assistant Professor of Geography

Saul B. Cohen, Ph.D., Research Professor of Geography Dennis W. Ducsik, Ph.D., Adjunct in Geography Stephen L. Feldman, Ph.D., Adjunct in Geography

- *On leave 1978-79
- **On leave 1977-79
- ***On leave 1978-80.

STAFF

Herbert C. Heidt, Senior Cartographer & Manager of Cartography Laboratory

Mary A. O'Malley, Administrator

Each year the School of Geography has in residence or as off-campus affiliates a number of Research Affiliates. For 1978-79 these are: David Sharon, Ian Burton, Timothy O'Riordan, Asher Schick, Richard Howard, David Prior, and Richard Palmieri.

When the Graduate School of Geography was organized in 1921, Clark became the second university in the United States to establish a separate graduate program in geography. At the present time, advanced training is provided leading to the master's and doctor's degrees. In addition, the school offers an undergraduate major, and a seven- and five-year program, B.A./Ph.D., and B.A./M.A. degrees. Clark is a center for geographical training and research in the United States, and its various offerings provide a maximum of individual attention through student-teacher dialogue.

DISTINCTIVE FEATURES AND SPECIALIZATION

The School of Geography is housed in modern quarters in the University's Academic Center. Graduate students and senior geography majors are assigned carrels in the Geography Workroom. The Workroom and other sections of the Geography Building contain specialized equipment and research facilities for the use of students and staff. The John K. Wright Reading Room contains the Graduate School of Geography's working reading collection. The core of this collection is the personal library of Dr. John K. Wright. The collection is continuously updated by the addition of new publications in the field of geography plus subscriptions to major geographic and scientific journals. A Curriculum Library is also located in this Reading Room. The Libbey Library of the Geography Workroom serves as a student lounge.

The Guy H. Burnham Map Library is a multi-faceted special library staffed by a professional librarian. It is one of five federal depositories for maps and charts. The collection consists of over 120,000 maps, charts, atlases, aerial photographs, and globes. Supportive materials either are on hand or can be obtained through inter-institution or inter-library cooperation. The library is designed to meet the geographic needs of the Clark community and the Central Massachusetts area.

Cross-disciplinary training, as evidenced by the four joint appointments held by geography faculty with other departments; the clustering of faculty research and teaching interests in several areas having to do with the man-environment system; and specialization in urban-economic, environmental management and behavior, international development, political, historical, cultural geography, and geomorphology currently characterize the school.

PUBLICATIONS

A professional magazine, *Economic Geography*, is edited by a faculty member. Started at Clark University in 1925, it is the only journal published in English that specializes in economic and urban geography. The magazine has a world-wide distribution with a total circulation of about 5,000.

The graduate students, through the years, have maintained the Clark University Geographical Society (CUGS). The annual publication, *The Monadnock* keeps School of Geography alumni in touch with each other and with news and scholarly activities in the school.

UNDERGRADUATE PROGRAM

The Undergraduate Geography Program covers a three-year period (sophomore-senior), during which 50-80 percent of the

course time is to be accounted for within the program. A minimum set of geography requirements is built into the major, and much of the students' work in cognate fields will be carried on through the advice of the adviser and in the context of individual needs and capacities. During the freshman year, a broad "Survey of Geography" and one or two "principles" courses are offered with attention given to the formation of small-group organization within the larger class framework. The program is designed to integrate the students' course program more fully and to provide greater scope and latitude for research/training opportunities.

A) The key points in this program are:

- (1) An Introductory Tutorial for all majors sometime during the sophomore year. This is a quarter course offered over a full semester under the supervision of a faculty member, with small groups directed by advanced graduate students. The objective of the tutorial is to establish personal relationships between faculty, undergraduate, and graduate students that will be a framework of interaction to affect other course work and to introduce students to bibliographic research methodologies.
- (2) The Modular Term is used by the Department of Geography as a period in which field and laboratory courses are emphasized. Field courses are seen as skill/tool technique opportunities which are of particular value to juniors.
- B) Majors in geography are required to take the following:
 - (1) Survey of Geography (011.) plus two introductory courses from the following: Physical Geography (014.), Economic Geography (015.), Cultural Geography (017.). Substitution of 100-level courses in these four areas may be approved by the department.
 - (2) Skill courses (two of the following): Introduction to Statistical Geography (110.), Computer Programming (212.), second college year level foreign language, or Introduction to Cartography (191.).
 - (3) A minimum of five elective semester courses in geography.
 - (4) A minimum of four semester courses in a related field from among: biology, chemistry, computer science, economics, education, government, history, physics, psychology, sociology, not necessarily all from the same field.
 - (5) Tutorial in Geography (001.) (half course for sophomores). Letter grades for required courses except Tutorial are mandatory.

For those taking a dual or inter-disciplinary major the following are required: Survey of Geography (011.); Tutorial in Geography (001.); one of the following introductory courses — Physical (014.), Economic (015.), Cultural (017.); two of the four "skills" courses; a minimum of three other elective geography semester courses that are clearly linked to the cognate field.

C) Since 1971-72, formal seven- and five-year programs for Clark undergraduate students have been offered, leading to the Ph.D., and M.A. degrees in geography. At the undergraduate level, applicants must major in geography and a dual or interdisciplinary field, and make application at the end of the junior year. The B.A./Ph.D. program may include one (the sixth) year off campus, in residence at another university or agency. Admissions are limited to a very small number of highly qualified students and in subfields of concentration that are approximate to Clark's range of offerings. For specific information, contact the Director of the School of Geography. Applications to these programs should be submitted to the Geography Office no later than May 15th.

THE GRADUATE SCHOOL OF GEOGRAPHY

Admission: Applicants without prior training in Geography are welcome, but depending on their concentrations, may be required to improve their knowledge of elements of geography, economic geography, cartography, or descriptive statistics. Courses taken to remedy any deficiencies will not count as part of the regular

program. The Graduate Record Examination scores (Verbal and Quantitative) are required of all students with the exception of those in foreign countries. The GRE Advanced Placement Test in Geography is desirable, but not required.

Degree Objectives: The graduate program in geography at Clark has been derived from a synthesis of faculty-student discussions, documents, and experiences. The Ph.D. training program stands as the central thrust in the Graduate School of Geography at Clark. In the context of the graduate training program, it is assumed that students may wish to pursue two tracks: one, the traditional Ph.D. with its training and experiential requirements in research and in teaching (assuming minimal steps for competence in the latter); the other, the Ph.D. with training related directly to the competence of individuals as college geography teachers, the thrust being in the combination of work relating to the teaching and learning of geography as a social science, and specialization in one major sub-field in geography. The School of Geography fosters student and faculty exchange with other institutions, including institutions outside the field of geography and with geography departments elsewhere. Clark has long encouraged ties with foreign geography students and faculty. Focus in recent years has also included links with developing institutions in the U.S. through training of prospective faculty and facilitating programs.

Specialized Programs in Sub-Fields: The curriculum is organized to focus on specialized programs in sub-fields of geography. Such sub-fields are developed around a series of sequentially-oriented courses which, in general, occupy from onethird to no more than one-half of the students' formal doctoral program. The sub-fields are organized in accordance with the interests, competencies, and breadth of the staff. Programs in Environmental Management and Behavior, Political Geography, Urban Geography, Geomorphology, Historical Geography, Cultural Geography, Geography and its Teaching, are examples of concentrations. Minor field concentration is also required, permitting, as a side benefit, shifts in the major concentration or sub-field. Therefore, even those students who arrive with preconceived notions about the major concentration will have opportunities to switch to other fields. In general, sub-fields are organized around committees with three to five staff members. Responsibility for supervision of the students' course selection, dissertation, and other training experiences is with the sub-field adviser.

In the organization of the curriculum in this specialized structured manner, there is neither the intention nor the desire to exclude faculty and students who do not wish to operate within the framework of a formal sub-field. Students may wish to create their own personalized programs or fields of concentration outside of the formal sub-fields. The only limit to this lies in the general nature of the offerings and in the interests and competencies of staff. Where formal specialized programs do not exist, it becomes the responsibility of the major adviser to develop, together with the students, a program whose various prerequisites will follow the general form and intent of the Clark graduate geography program. Development and evaluation of specialized programs rests heavily on the activities of joint student-faculty committees. Passing of prerequisites (e.g., substantive course background, statistical methods, computer science, or cartography) is essentially the responsibility of the specialized concentration, as is the encouragement of cross-disciplinary training

Formal Course Requirements: Other than those courses considered prerequisite to the specialized or individually-tailored program, no formal course requirements are set. It is the full responsibility of a student's adviser to require that a student take courses in areas of deficiency. Such courses might be required on a formal basis, on an audit basis, or through organized readings.

Proficiency and Research Papers: Two formal papers are required. A proficiency paper, normally submitted during the second semester of the first year, and a research paper in the field of specialization, normally submitted during the second year. Both papers are brief and in the style and form of scholarly articles.

The Proficiency Paper: All incoming students are expected to

present the proficiency paper no later than between March 15th and April 15th of the academic year. The objectives of this paper are two-fold: (1) to evaluate a student's ability to think and write logically and to articulate a research problem; and (2) to identify individual strengths and weaknesses as a guide to future course work and needs. The paper should normally not exceed 30 pages (unless the M.A. thesis is presented), excluding specialized bibliographical references, and should represent a finished piece of work in style, sense of research problem, and findings. The style should follow Turabian in terms of what is expected of a scholarly article. It is expected that this paper will be read by three individuals, a major reader drawn from the research area, and two members of the faculty who play the role of generalist-readers.

The Research Paper: As a prelude to the development of a doctoral dissertation proposal, each student is expected to submit an advanced research paper (15-30 pages in length) in his/her field of specialization approved by the major adviser. This paper is to be submitted as a demonstration of the ability to research a problem in depth and to write it in publishable form (cf. Turabian). Generally the research paper is written in connection with a course or seminar taken in a specialized field and is submitted during the second year. Distinguished from the proficiency paper, which is likely to show only preliminary inquiry into a problem area, the research paper is expected to evince mastery of the topic. The adviser is responsible for approving the paper and submitting it to the Geography Office.

The research paper is a prerequisite for the pre-doctoral M.A. Should a student not desire to apply for this M.A., he or she need not submit the research paper. However, it is assumed and strongly urged that all students apply for the pre-doctoral M.A. and submit a paper.

Residence Requirement: A three-year residence beyond the B.A. degree is required for the Ph.D. program. One of the years in residence must be the year in which the dissertation proposal is submitted and approved, and, as part of the three-year residence. the student must remain in residence for one semester (or one summer under direct supervision) following approval of the outline to work on the dissertation. After approval of the dissertation proposal, if the dissertation is not completed by the end of four years, the proposal must be submitted for reapproval. One prerequisite for such reapproval is provision for one academic semester's residence during the next year to work on the dissertation. (Twelve weeks during the summer is considered the equivalent of an academic year semester for this purpose, with the proviso that a faculty member be in residence at Clark during the summer and express a willingness to supervise.) Upon completion of all formal requirements, save the completion of the dissertation, the student is expected to file for candidacy with the Graduate School, unless specific permission not to file is granted by the School of Geography. Students entering with an M.A. in a field other than geography will be expected to take essentially the three-year residence program. Students entering with an M.A. in geography from another institution may expect to complete their residence in five semesters or two and one-half years.

Teaching and Research Prerequisite: Some teaching and research experience at Clark is prerequisite to the doctor's degree and the terminal M.A. degree. Every effort is made to organize various forms of internships to provide on- and off-campus training activities, at the teaching and research levels, generally at the end of the second year of residence.

DOCTOR OF PHILOSOPHY

A) Language and/or Alternate Requirement

Options to examination in a traditional foreign language are available. These include: (1) computer science, (2) statistical methods, and (3) cartography; in addition, other options can be required or made available by individual concentrations with the approval of the faculty. The requirement varies with the concentration.

B) The Ph.D. Examination

All Ph.D. candidates must prepare themselves for

examination in three fields. The major field examination consists of a 90-minute oral examination. The student may opt for either a 45-minute oral or a three-hour written examination in each of the two minor fields. Selection of fields should be made in consultation with the major adviser and the other committee members at least two months in advance of the examination dates, and is subject to departmental approval. In selecting the three fields, breadth in an interrelated set of subfields, depth in connection with the proposed dissertation topic, or competencies and availability of staff are considerations.

Under normal circumstances, it is expected that the language requirement (or its alternatives) will have been successfully met prior to the student's taking the Ph.D. examination. Approval of the dissertation proposal may precede the Ph.D. examination. Doctoral examinations are not normally conducted between May 1 and September 15, and should be requested 60 days before the desired date. Responsibility for convening the committee for the examination is taken by the Department Secretary on request of the student.

C) Committee System for Ph.D. Dissertation

The dissertation committee is composed of five faculty members, with responsibilities for: (a) approval of the outline; (b) reading and reviewing of the dissertation (two readers and three reviewers); and (c) participating in the dissertation defense. The committee will include two external members (second reader and/or reviewers). External members may be drawn from the field of Geography outside the University or from other departments within the University. When the dissertation proposal has been approved by the committee in its entirety or majority, a letter to this effect shall be submitted to the Geography Office by the first reader together with 15 copies of the proposal. The director of the school will then circulate the proposal to each member of the faculty for comments, and final approval will be made at the end of two weeks by the director in light of these comments.

When there is no formal concentration, the proposal is circulated to the faculty as a whole by the Director upon receipt of a draft approved and signed by the major adviser. Action on the proposal, in terms of approval of proposal and establishing a committee, will be taken by the faculty after two weeks, either at a scheduled faculty meeting or by written comments addressed to the Director and the major adviser.

When a draft of the dissertation has been approved by the committee, three copies of the draft with a letter to the effect of its approval signed by the first reader, will be submitted to the Geography Office. The director will then inform the faculty that these copies are available for examination for a period of two weeks. Any time after the end of the two-week period, the defense may be scheduled. In addition to the committee, any member of the Clark faculty (geography or other departments) is invited to participate in the defense. A week before the defense date, notices will be given of the defense to the Dean of the Graduate School. If the defense is adequate, then the dissertation in final form is delivered, with two copies to the departmental office and the ribbon copy to the Registrar.

MASTER OF ARTS

While the thrust of the Clark Geography Program is at the doctoral level, two types of M.A. degrees will be made available: A) The Pre-Doctoral M.A.

Students working toward the Ph.D. will be granted, upon request, an M.A. degree at the end of the required residence period, having completed: (a) a formal research paper approved by the concentration adviser; (b) required course work; (c) the Ph.D. preliminary examination; and (d) the dissertation proposal.

B) The Non-Doctoral M.A.

Normally no later than at the end of the first semester of the second year of residence, after a review process that includes a proficiency paper in the concentration at the end of the first year, students may opt or may be advised to shift to a terminal M.A. degree, under which circumstances they will be expected to drop one or two courses in order to write a thesis. This thesis is envisaged as a research paper or short article (15-30 pages), demonstrating an ability to define a problem as well as serving as evidence of research competence. The thesis would be presented in a manner as to meet the form and standards of a professionally acceptable article, and will be defended at the Master's Oral Examination

After approval by a committee consisting of the major adviser and two other faculty of the student's choosing, three copies of the final draft with a letter by the major adviser noting committee approval will be delivered to the Geography Office. The director will then announce to the faculty that the draft is available for examination. Any time after the end of 10 days, the defense may be scheduled. In addition to the committee, any member of the Clark faculty (geography or other departments) may be invited to participate in the defense. A week before the defense date, notice will be given of the defense to the Dean of the Graduate School.

Following defense of the thesis, two final copies are delivered to the departmental office and the ribbon copy to the Registrar. Thesis defense should be conducted six weeks prior to commencement.

COURSES

Courses are numbered under three headings: #1 primarily for undergraduates; #2 for advanced undergraduates; #3 primarily for graduates. Courses beginning with #0 are introductory and, along with #1 courses which have no prerequisites, are open to freshmen. These levels are not restrictive to properly qualified students.

001. TUTORIAL IN GEOGRAPHY.

This is a basic introduction for majors to geography as a field and to bibliographic research methodologies. The course examines geographic journals as an introduction to geography and its practice; explores the Goddard Library's potential as a research center; investigates alternative research facilities in the areas that are of use to geographers, and stresses the preparation and writing of research reports as a basis for autonomous learning in a geographic setting. Quarter course, Semesters 1, 2

011. SURVEY OF GEOGRAPHY.

Survey provides a general conceptual framework for understanding modern geography. Emphasis is placed on the interrelation of various approaches to geographic research as presently conducted in the Graduate School of Geography. Urban, physical (climatology, soils, biogeography, and land form studies), economic, political, social, cultural, historical, and regional themes will be developed with approximately one-third of the lectures being given by various staff members. The course is designed primarily for freshmen and sophomores and is a required course for geography majors. Full course, Semester 1.

013. FIELD STUDIES OF ENVIRONMENTAL ISSUES.

Explore the Worcester region and its environmental issues, learn to do field research, to analyze findings, and to present results to others. Limited to 40 freshmen and sophomores working together in small groups.

Full course, Semester 2.

Mr. Kates.

Mr. Bowden.

Staff.

014. INTRODUCTION TO PHYSICAL GEOGRAPHY.

This course is a basic inquiry into components of geomorphology and climatology. The role of man as a critical agent in physical

geography is included by looking at inadvertent climatic modification and alteration of the earth's surface by man's activities. Course includes labs and field trip. Full course, Semester 2. Mr. Lewis.

015. INTRODUCTION TO ECONOMIC GEOGRAPHY.

This is an introduction to economic geography including an outline and critique of theores of location and economic development. Full course, Semester 1. Mr. O'Keefe.

017. INTRODUCTION TO CULTURAL GEOGRAPHY.

The course is an ecological and historical approach to the study of cultures and culture change in a spatial context. A series of broad themes and problems are illustrated by case studies. Among the major themes to be considered are: adaption to environment. culture in prehistory, migration and the creation of culture areas. the world views of primitive, traditional, and industrial cultures. culture landscape, and the cultural geography of the United States. A schedule of three lectures and one discussion per week are integral parts of the course. Full course, Semester 2. Mr. Bowden.

089. INTERNSHIPS IN GEOGRAPHY.

The course consists of faculty supervised internships to assist students in integrating academic theory with practical experience. Students are able to do extended research into a specific area of interest. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2,

098. READINGS IN GEOGRAPHY.

The course offers directed readings for undergraduates in an area of their choice. Prerequisite: permission of instructor. Variable credit. Semesters 1.2. Staff.

099. RESEARCH IN GEOGRAPHY.

This course is special research projects for undergraduates in an area of their choice. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2,

110. INTRODUCTION TO STATISTICAL GEOGRAPHY.

Principles of inferential statistics will be introduced. These will include point estimation, internal estimation, sampling distributions, hypothesis testing, and correlation techniques. Full course, Semester 1. Mr. Karaska.

114. DYNAMICS OF THE EARTH SURFACE.

This is an examination of the earth's physical landscapes including the processes that shape the landforms as well as the evolution of landscapes. This inquiry will investigate the roles of water, ice, wind, and human activity on the erosional and depositional processes. Full course, Semester 1. Mr. Berry.

125. DEVELOPMENT PROBLEMS.

The several dimensions of development and the reasons why the gap between developed and underdeveloped countries is widening will be explored. Among the disciplines drawn upon will be: geography, government, economics, and education. Problems analyzed will include: urban growth, land reform, unemployment, and government planning. Tanzania, China, Brazil, and other countries will be used as cases. See also History 288 Full course, Semester 1. Mr. Ford, Mr. Berry, Ms. Enloe.

150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

Help wanted: Water resource planners for City of Aquarius to prepare 50-year plan for water supply, water quality, flood control. and recreation. Includes opportunity to use advanced computer simulation. Group collaboration required. Full course, Semester 1. Mr. Warrick.

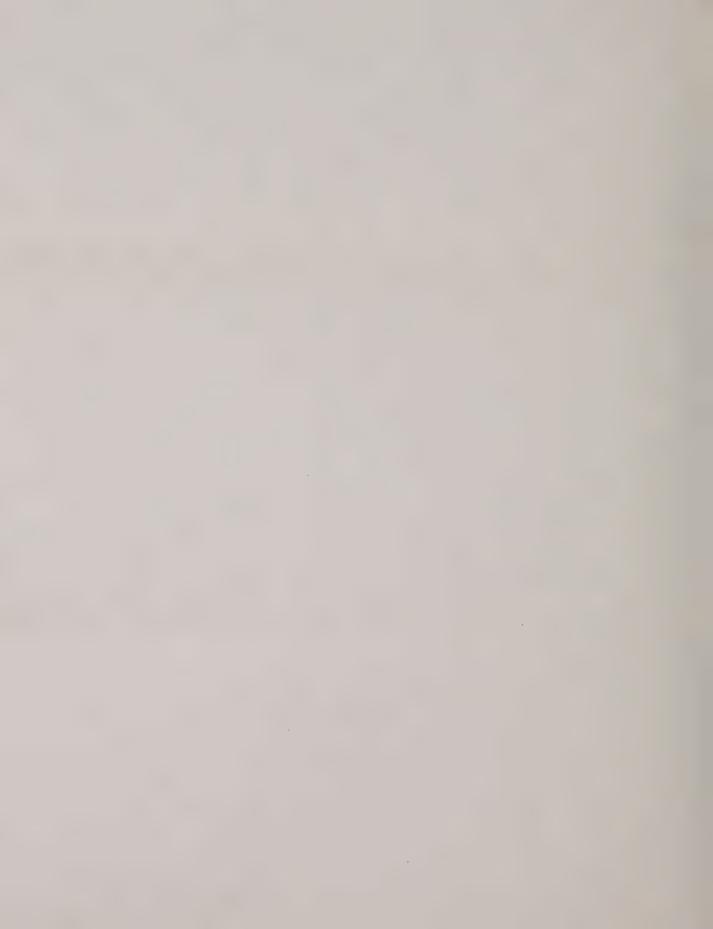
GEOGRAPHY 156. INTRODUCTION TO RESEARCH METHODS

This course will introduce students to research methods used in the Social Sciences. Using examples of completed and current research, students will examine the relative merits of a range of research methods including participant observation, social survey, questionnaire techniques, folk histories and bibliographic searches.

Students will be expected to design a research project specifying what research techniques will be used to elicit results.

Full course, Semester II

Mr. O'Keefe



157. INTRODUCTION TO RESOURCE MANAGEMENT.

The course covers fundamental theory, methods, problems, and natural resources. It includes examination of resources economics; problems of externalities and common property resources; resource estimation and projection; evaluative techniques; role of perceptions and attitudes; environmental decision making; and assessment of policy alternatives.

Full course, Semester 2.

Mr. O'Keefe.

158. AGRICULTURAL GEOGRAPHY.

The course consists of the examination of agricultural systems, their processes, problems, and prospects. In part, the course will focus on issues of agricultural decision-making; culture and agriculture; food production, distribution, and hunger; technology and resource requirements; environmental impacts; and alternative agricultural futures. The course will draw upon case studies in North America, Asia, and Latin America.

Full course, Semester 2.

Mr. Warrick.

159. GEOGRAPHY OF RECREATION.

This course deals with the changing meanings and uses of leisure and recreation, problems in the evaluation of outdoor recreation as a resource, issues in the management of outdoor recreational facilities including both urban and wilderness recreation, and case studies in applied recreational research. The aim is to introduce students to the variety of philosophical concepts and methodological techniques associated with modern research in recreation.

Full course, Semester 2.

Mr. Warrick.

163. DYNAMICS OF CITY GROWTH.

The course offers an historical approach to study of the changing internal structure of urban areas; theories and models of city growth in Europe and North America from 1100 A.D. to the present. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Krim.

171. SOCIAL GEOGRAPHY.

This is an overview and survey of social problems of cities designed specifically as an introductory course. It includes examination of major issues from theoretical and empirical standpoints.

Full course, Semester 2.

Mr. Seley.

191. INTRODUCTION TO MAP MAKING & CARTOGRAPHY.

This is an introduction to cartography and the mapping process with emphasis on problems of data collection, scale compilation, and selection of cartographic method. Topics include fundamental aspects and use of major types of map projections and examination of transformations to non-geographic spaces (cartograms).

Full course, Semester 1.

Mr. Steward.

193. CARTOGRAPHIC GENERALIZATION AND SYMBOLIZATION.

Two major topics in cartography will be covered in this course: (1) principles of generalization and their application to generalization of base map, point data, aerial data, and landform representation; and (2) study of alternative solutions to symbolization of qualitative and quantitative data. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Chang.

205.2 EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Full course, Semester 1.

Mr. Knos.

206. AUTOBIOGRAPHY WORKSHOP.

The course offers a consideration of how students have learned in their own lives as a prerequisite to helping others to learn. The course seeks to engender an appreciation of both uniqueness and generalization in the process of teaching any social science discipline.

Half course, Semester 1.

Mr. Knos, Staff.

209. SIMULATION AS A LEARNING DEVICE.

This course is designed to provide experience in the development of simulations to illustrate a variety of geographic concepts. Concepts will be defined; illustrations in the real world will be formulated; and simulations of these situations will be developed. Full course, Semester 2.

Mr. Knos.

211. GEOMORPHOLOGY IN THE HUMID TROPICS.

The nature of geomorphological phenomena in the humid tropics will be analyzed. The ramifications of man's utilization of these areas will be examined.

Full course, Semester 1.

Mr. Lewis.

213. SEMINAR IN GEOMORPHOLOGY.

Advanced seminar will discuss two main themes: (1) The development of historical geomorphology through the nineteenth and twentieth centuries. Special attention will be given to the historical development of current important research trends; (2) An analysis of current ideas on landscapes of arid areas with special relation to the arid southwest section of the United States and the Sahara

Full course, Semester 2.

Mr. Berry.

221. APPLIED SURFACE WATER HYDROLOGY.

The course will focus on practical applications of hydrology for water resources management. Topics such as flood plane analyses, frequency analyses, and reservoir operation will be covered in detail following a quick review of the field. Prerequisite: Geography 014., or permission of instructor.

Full course, Semester 2.

Mr. Schwarz.

223. HUMAN ACTIVITY AND GEOMORPHOLOGY.

The role of man as the principal geomorphic agent in both urban and rural environments is emphasized. The problem of integrating economic activity within the constraints of the physical environment to minimize negative geomorphic responses will be explored.

Full course, Semester 2.

Mr. Lewis.

226. TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT.

For advanced students, this is an introduction to the theory and methods of risk assessment and hazard management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation.

Full course, Semester 2.

Mr. Kates.

227. AMERICAN THOUGHT AND CULTURE SINCE 1865.

The course offers studies in the consciousness of selected Americans under differing conditions of time, place, and circumstance. Emphasis is on the reading and analysis of primary texts. There will be field and laboratory exposure to music, art, architecture, and landscape analysis.

Full course. Semester 2.

Mr. Koelsch.

230. PRINCIPLES OF POLITICAL GEOGRAPHY.

Course studies theory and methodology in political geography; political processes and landscape interaction, at varying levels of the political hierarchy (national, urban, international). Attention is given to such topics as equilibrium, systems, decision-making, political action space. Open to juniors and seniors. Prerequisite: Geography 011., or Government 014. (See also Government 230.) Full course, Semester 1.

231. SEMINAR: POLITICS & THE ENVIRONMENT.

This is a state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or for advanced study. Topics include the concept of the public interest, public attitudes to the environment, regulatory agencies, decision-making theory, the role of Congress, etc. A major seminar presentation and substantive research paper will be required.

Prerequisite: permission of instructor. (See also Environmental Affairs 231.)

Mr. Kasperson. Full course, Semester 2

233. GEOGRAPHY OF PUBLIC SERVICES.

Using the American city as the locus of study, this course analyzes current patterns and problems in the distribution of public services to local citizenry. The first half of the course deals with theory, methodology and case example; the second with student research on public service delivery in the Worcester area. Limited to 25

Full course, Semester 1. Mr. Seley.

236. GEOGRAPHY OF INTERNATIONAL DEVELOPMENT.

This course will examine economic ecological spatial theory of underdevelopment. Case studies will be taken from Asia, Africa, and Latin America. Students will be expected to submit a written project indicating specialized research knowledge in one of these

Full course, Semester 2.

Mr. O'Keefe.

239. THE EUROPEAN COMMUNITY.

This course examines the development of the European community with emphasis on economic and political integration. The applicability of the European model to other trans-national contexts is explored. (See also Government 239.) Full course, Semester 1. Mr. P. Taylor.

240. AMERICAN CULTURE & SOCIETY, 1820-1860.

This is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention will be paid to the cultural geography, the arts (primarily literature and painting), and, to some significant political and social issues of the period. Offered by staff from Departments of English, History and Geography and the staff at Old Sturbridge Village under the auspices of the Program of Humanistic Studies. Full course, Semester 2. Mr. Bowden, Mr. Johnson, et al.

247. INTERMEDIATE STATISTICAL TECHNIQUES.

This is a study of statistical methods and spatial statistics in geography. Topics will include estimation, hypothesis testing, simple and multiple regression, and correlation techniques Canned computer programs will be used in case studies whenever possible. Prerequisite: introductory statistics. (See also Government 247.)

Full course, Semester 2.

Mr. P. Taylor.

252. ARCHITECTURAL HISTORY & HISTORICAL GEOGRAPHY.

This is a survey of the American architectural landscape from the perspective of historical geography with emphasis on the role of house types as cultural indicators. The course will provide a detailed examination of nineteenth century popular styles for use in architectural surveys and historic preservation programs. Full course, Semester 1. Mr. Krim.

253. HISTORICAL GEOGRAPHY OF NEW ENGLAND.

This is a seminar and field course concerned with specific research problems in the historical geography of nineteenth century New England, including, but not limited to perception in and reconstruction of rural environment and landscape; and the expanding commercial-industrial and residential structure of the Victorian city.

Full course, Semester 1.

Mr. Koelsch.

261. URBAN ECONOMIC GEOGRAPHY.

This course offers a systematic study of external and internal spatial relationships of cities and city systems. Urbanization is viewed as a process in spatial organization involving mutual interrelations among decision units. Full course, Semester 2.

Mr. Karaska

265. SIMULATING THE CITY.

The course involves representation and analysis of city organization and function by use of games, role playing, and other devices.

Full course, Semester 1.

Mr. Knos.

266. RESEARCH METHODOLOGY IN SOCIAL PLANNING.

The course offers examination of methods used in social planning. with particular emphasis on community level planning. Students will do their own research projects. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Seley.

271. HOUSING IN WORCESTER.

This is a project-oriented seminar concerned with an inventory of Worcester housing and with generating plans for rehabilitation. Prerequisite: permission of instructor. Half course, Semester 1. Mr. Krim.

272. AMERICAN SPACE & ITS EUROPEAN ROOTS: CITIES AND CULTURE.

This is a cluster course conducted primarily as a senior seminar in which comparative literature, geography, and philosophy will provide integrated perspectives on the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical, geographic, economic, literary, architectural, and other cultural dimensions of LOS ANGELES, ATHENS, BOSTON, and MEXICO CITY. Part of a Humanistic Studies cluster which also offers credit as Comparative Literature 276., Spanish 272., and Philosophy 272. Full course, Semester 1. Mr. Bowden.

277. MARXIST RESOURCES THEORY.

The course offers a Marxist approach to the allocation and management of economic resources with particular attention to the African setting. Full course, Semester 2. Mr. O'Keefe.

278. ELECTORAL GEOGRAPHY.

The purpose of this course will be: (1) to analyze major theories as to the causes and forms of participation in the polities; (2) to examine our understanding of participation in the context of alternative models (e.g. pluralist welfare state, elitist power structure technological state) of the polity; and (3) to review contemporary citizen participation programs implemented by various governmental agencies. Limited to 25 students. (See also Government 278.) Full course, Semester 2. Mr. P. Taylor.

279. SEMINAR IN REGIONAL & LOCAL PLANNING IN THE UNITED KINGDOM.

This seminar will consider physical and economic planning and policy formulation. Particular attention will be paid to the interaction between private and public sections. (See also Government 279.)

Full course, Semester 2.

Mr. P. Taylor.

280. PLANNING ISSUES.

This is a broad introduction to issues in planning, including economics, social, and political concerns. The focus will be on actual and hypothetical examples. Full course, Semester 1. Mr. Seley.

281. PLANNING INTERNSHIP AND INTERNSHIP SEMINAR.

This is an individual internship with a public or private agency involved in planning, in conjunction with a seminar. The internship will be under the supervision of a faculty member in the Planning Cluster or a related area. The Internship Seminar will be designed to help the student understand and strengthen his/her internship experience. The seminar will be attended by various faculty in the Planning Cluster, as well as others with relevant internship experience.

Full course, Semester 1.

Mr. Knos. Staff.

282. PLANNING STUDIO 1: SKILLS.

This course offers a problem-oriented approach to the learning of basic skills necessary to urban and regional planning. Case and exercise format will focus on communication and analytical skills, including writing, mapping, elementary data handling, graphs, computers, and presentations. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Karaska.

283. PLANNING STUDIO 2: PROBLEMS.

Students will give practical application of planning skills to specific problems. The class will focus on one or more problems and pursue alternative solutions through a teamwork approach.

Full course, Semester 2.

Mr. Seley.

290. REMOTE SENSING OF THE ENVIRONMENT.

This course will concentrate on the use of remotely sensing instrumentation as a tool for the geographer. Students should develop a working understanding of the electro-magnetic spectrum as a guide upon which the geographer may choose a sensor or data for geographic investigation and as a basis for communication with others in the field. Hands-on experience with conventional aerial photo interpretation and Earth Resources Observation Systems data will be emphasized. Limited to 20 students.

Full course, Semester 2.

Staff.

291. BASIC MAP DESIGN.

The course studies the major elements of thematic and topographic map design including atlases. Topics include map structure, symbolization, lettering, toponymy, color, and generalization. Prerequisite: Introduction to Map Making and Cartography 191., or permission of instructor.

Full course. Semester 1.

Mr. Steward.

292. CARTOGRAPHIC TECHNIQUES.

This is a course in positive and negative artwork and basic photographic methods for map presentation.

Full course, Semester 2.

Mr. Heidt.

295. WORKSHOP IN MAP DESIGN AND PRODUCTION.

The course examines selected problems involving (1) computer mapping, or (2) development and analysis of effectiveness of alternative solutions to mapping problems.

Full course, Semester 1.

Mr. Heidt.

298. INTRODUCTION TO AUTOMATED CARTOGRAPHY.

The course studies recent developments in automated cartography as it applies to the production of maps and cartographic data banks. It is an introduction to standard computer mapping programs for production of line printer as well as digital plotter maps to include the digitizer for creative base files and the CRT for editing maps and files.

Full course, Semester 2.

Mr. Steward.

300. READINGS IN GEOGRAPHY.

Students participate in directed readings for graduate students in an area of their choice. Prerequisite: permission of instructor. Variable credit.

Semesters 1, 2.

Staff.

301. RESEARCH IN GEOGRAPHY.

These are research projects for graduate students leading, usually, to the dissertation proposal. Prerequisite: permission of instructor.

Variable credit.

Semesters 1, 2.

Staff.

307. SEMINAR IN DISASTER PREVENTION IN DEVELOPING COUNTRIES.

The course is a critical examination of both the possibility and experience for pre-disaster planning and prevention activity to reduce economic and social costs of floods, droughts, tropical cyclones, and earthquakes.

Full course, Semester 1.

Mr. O'Keefe.

316. SEMINAR IN GEOMORPHOLOGY.

The seminar will explore patterns of thought in modern geomorphology focussing particularly on fluvial and mass wasting processes acting directly on hill slopes.

Full course, Semester 1.

Mr. Lewis.

332. SEMINAR IN ENVIRONMENTAL PERCEPTION, COGNITION, AND BEHAVIOR.

This is a seminar on the theory, methods, and research findings on environmental perception, cognition, and behavior - for advanced students with prior knowledge or experience.

Full course, Semester 1.

Mr. Kates.

333. TEACHING FIELD STUDIES OF ENVIRONMENTAL ISSUES.

This is a parallel course to Geography 013., for Environmental Affairs and Geography seniors or graduate students interested in small group leadership and investigative projects. Limited to 8 students and requires advance consultation with instructor during fall semester.

Full course, Semester 2.

Mr. Kates.

347. SEMINAR IN SYSTEMS ANALYSIS.

This course is designed to develop a closer familiarity with complex models. Students working as a group will either develop or adapt a complex system and test the output on the computer. Prerequisite: Geography 248., or permission of instructor. Full course, Semester 1.

Mr. Schwarz.

366. SEMINAR IN COLLEGE CURRICULUM DESIGN.

Students will study the development of curriculum with supporting materials oriented toward college undergraduates. Learning in a problem context will be stressed. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Knos.

368. HISTORY OF GEOGRAPHIC THOUGHT.

This is a course in the development of some major themes and schools of geographic thought. Prerequisite: course background in geography.

Full course, Semester 1.

Mr. Koelsch.

COURSES DIRECTLY RELATED TO GEOGRAPHY OFFERINGS

For descriptions and details, please refer to course listings within the departments.

Education 205.2. EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR.

Full course, Semester 2.

Mr. Knos, Staff.

Education 206. AUTOBIOGRAPHY WORKSHOP.

Half course, Semester 1.

Mr. Knos, Staff.

Environmental Affairs 201. APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS.

Half course, First half, Semester 1.

Mr. Schwarz.

Environmental Affairs 202. THE BIOSPHERE.

Half course, Second half, Semester 1.

Mr. Reynolds.

Environmental Affairs 203. MAN'S PERCEPTION OF HIS ENVIRONMENT.

Half course, First half, Semester 2.

Staff.

Environmental Affairs 204. ENVIRONMENTAL PLANS AND PROGRAMS.

Half course, Second half, Semester 2.

Mr. Schwarz.

Environmental Affairs 210. ENVIRONMENTAL PROTECTION. Full course, Semester 2. Staff.

Environmental Affairs 231. SEMINAR: POLITICS & THE ENVIRONMENT.

Full course, Semester 1

Full course, Semester 2.

Mr. Kasperson.

Environmental Affairs 250. PRACTICAL PROBLEMS IN **ENVIRONMENTAL AFFAIRS.**

Two course value, Modular Term.

Staff.

Ms. Enloe.

Geology 11. INTRODUCTION TO PHYSICAL GEOLOGY. Full course, Semester 1. Ms. Rehmer.

Government 235. COMPARATIVE BUREAUCRATIC POLITICS.

Full course, Semester 1. Ms. Enloe. Government 236. POLITICS OF SOUTHEAST ASIA.

History 241. AMERICAN THOUGHT & CULTURE SINCE 1861.

Full course, Semester 2. Mr. Koelsch. History 246. SEMINAR: HISTORY OF AMERICAN

HIGHER EDUCATION.

Full course, Semester 2 Mr. Koelsch.

I.D. 125. DEVELOPMENT PROBLEMS.

Full course, Semester 1. Mr. Berry, Mr. Ford

I.D. 206. AUTOBIOGRAPHY WORKSHOP.

Half course, Semester 1. Mr. Knos.

I.D. 210. ECONOMIC PLANNING.

Full course, Semester 1. Ms. Seidman.

STS 101. INTRODUCTORY CASE STUDIES.

Full course, Semesters 1, 2. Mr. Hohenemser, Mr. Schwarz, Mr. Ducsik, Mr. Kates, Mr. Kasperson.

STS 201. ENERGY AND SOCIETY.

Full course. Semester 2. Mr. Ducsik.

Sociology 247. URBAN SOCIOLOGY.

Full course, Semester 1. Mr. Ross.

Geology

DEPARTMENT FACULTY

Judith Rehmer, M.A., Assistant Professor of Geology Laurence A. Lewis, Ph.D., Associate Professor of Geography Rudolph F. Nunnemacher, Ph.D., Professor of Zoology

A program in geology with a full-time geologist and the assistance of other faculty members has been reinstituted in the college since 1976-77. Course offerings in geomorphology are listed under physical geography.

While a major in geology is not currently available, students can plan a "self-designed major" which accomplishes the same purpose.

COURSES

11. INTRODUCTION TO PHYSICAL GEOLOGY.

The important geologic concepts needed to both understand our

planet's structure and provide the foundation for advanced study in the geological sciences will be covered. Recent findings in geophysics, geochemistry, oceanography, and space science will be related to the subject matter of classical geology. Lecture, lab. Full course. Semester 1. Ms. Rehmer, Mr. Lewis.

12. HISTORICAL GEOLOGY.

The geologic history of continents, oceans, and the evolution of life through the ages, with emphasis on the North American continent will be studied.

Full course, Semester 2.

Ms. Rehmer.

111. INTRODUCTORY MINERALOGY. Not offered, 1978-79. The study of crystallographic, physical, and chemical properties of common minerals will be undertaken. There will be a field trip and laboratory. Prerequisite: Geology 11. Full course, Semester 2. Ms. Rehmer.

131. STRUCTURAL GEOLOGY.

Analysis of rock formation based on the principles of mechanics and the utilization of research data obtained from laboratory and field investigations will be studied. The principles of structural geology will be applied to the interpretation of major fold, fault, and fracture systems of the earth. There will be a field trip and laboratory. Prerequisite: Geology 11. Full course, Semester 2. Ms. Rehmer.

141. THE FOSSIL RECORD.

Not offered, 1978-79. This course is a systematic survey of the morphology, taxonomy, and geologic history of groups of organisms commonly found as fossils. The techniques and principles used for interpreting the fossil communities in terms of age and environment will be discussed. There will be a field trip and laboratory. Full course, Semester 2. Mr. Nunnemacher.

142. STRATIGRAPHY AND SEDIMENTATION.

This is a survey of the principles and methods used to study layered rocks, their ages, fossil content, and correlation. Emphasis will be on sedimentary rocks and will include their classification and depositional processes and environments. Prerequisite: Geology 12., or permission of instructor. Field trip. Laboratory. Full course, Semester 1. Ms. Rehmer.

151. INTRODUCTORY FIELD METHODS.

This is a survey course in field geology. This includes introductory methods in topographic and structural mapping, hydrogeology, and air photo interpretation. Numerous field excursions. Prerequisite: permission of instructor.

Full course.

Ms. Rehmer, Mr. Lewis.

161. SPECIAL PROJECTS.

Selected research topics in geology will be undertaken. Prerequisite: permission of instructor. Full course.

Staff.

171. ENVIRONMENTAL GEOLOGY.

The application of geological specialties to environmental problems will be studied. Geologic processes, earth resources. and engineering properties of rocks and surficial deposits as important to human activities will be emphasized. Prerequisite: Geology 11. or Geography 014. There will be lectures and discussions. Full course.

Mr. Lewis.

201. SEMINAR IN NEW ENGLAND GEOLOGY.

Not offered, 1978-79.

The geology of the Northern Appalachians with emphasis on orogenic events, paleogeographic reconstructions, plate tectonics models for Appalachian folding, post-tectonic sedimentation. glaciation will be studied. There will be individual projects and three local field trips. Prerequisite: Geology 11. or 12. and permission of instructor.

Full course, Semester 2.

Ms. Rehmer.

Government and International Relations

DEPARTMENT FACULTY

John C. Blydenburgh, Ph.D., Professor of Government, Department Chairman

Morris H. Cohen, Ph.D., Professor of Government, Representative, Washington Semester Program

Cynthia H. Enloe, Ph.D., Professor of Government

Sherman S. Hayden, Ph.D., Professor of International Relations, Emeritus

Roger E. Kasperson, Ph.D., Professor of Government and Geography*

Ronald P. Formisano, Ph.D., Associate Professor of American History and Adjunct Associate Professor of Government Sharon Krefetz, Ph.D., Associate Professor of Government** Knud Rasmussen, Ph.D., Associate Professor of Government

Ann T. Schulz, Ph.D., Research Associate Professor of Government

Thomas Fischgrund, Ph.D., Assistant Professor of Public Administration**

Scott Taylor, Ph.D., Research Assistant Professor of Government, Associate Director, Public Affairs Research Center Peter Taylor, Ph.D., Visiting Associate Professor of Geography Ann L. Craig, Visiting Assistant Professor of Government Andrew E. Hegedus, M.A., Visiting Lecturer in Public Administration

*On leave, Semester 1, 1978-79.

**On leave, 1978-79.

UNDERGRADUATE PROGRAM

The basic premise of the program in the Department of Government and International Relations is that the knowledge which is the product of political research is not different fundamentally from the knowledge that is useful to a political actor. The implication of this point for our program is that the same curriculum which effectively trains potential political actors, be they citizen or public servant, can prepare a person for a career as a scholar.

The identity of political science as a discipline, like most of the social sciences, suffers because there is not a non-academic profession associated with it. If there were, the problem of setting up program criteria would be trivial. We have no illusions about remedying this deficiency with a program designed to train professional politicians or government workers. Nevertheless, we sincerely hope that some of our students will go on to careers in the municipal, state, and federal government and, of course, the many public careers outside government — journalism, law, public interest organizations, business, and education.

The aim of the department, therefore, is that all students who come in contact with us will be more competent political actors — at whatever level they choose — than they would have been had they not come in contact with us. For the government major we have the additional aim that he or she should be able to acquire from us knowledge which would complement a career in the practice or the study of public affairs.

The focus of politics is the future — what the state will be and what it should be. These, too, are the central problems of political science: the development of predictive theory based on a clear conception of the present; and the establishment of a critical perspective from which to evaluate and explore normative political theory. Therefore we see three components, three types of political education, that make up an effective political science

curriculum: (1) a description of the present; (2) the concepts and skills useful for constructing predictive theory; (3) the intellectual skills necessary for critically evaluating normative theory.

Descriptive Component

First, an effective political science curriculum should provide useful information about politics and government; students exposed to the curriculum should have a knowledge of political and governmental institutions, their operations, their interrelationships, and their role in political systems. The curriculum includes the provision of skills useful in measuring and analyzing information about politics and government. In short, the curriculum should provide an accurate description of the politics and government that students are likely to encounter in their lives after Clark.

Predictive Component

But information about politics and government is not sufficient for understanding. To understand means, at least in part, to have prudent expectations about the future: the effective political actor has to be able to make useful predictions. Thus we aim to provide models and theories with which students can use present information to make inferences about the future.

Normative Component

While political argument is enabled by uncertainty, it is necessitated by ideological disagreement. Thus the third component of an effective curriculum is the development of analytic skills useful for evaluating normative judgments about politics and government. The successful political actor, as citizen or professional, is constantly exposed to arguments about how the state ought to be. The critical thinker — the competent analyst of normative political argument — will be among the most effective participants in an open society.

The Government Major

The structure of the major is meant to accomplish these three goals while providing for the non-major as a by-product. The major consists of program requirements and a subfield specialization in which the major chooses to explore a narrower field in greater depth. In a costless world it would be difficult to choose an ideal set of subfields. Our position is that the subfields we offer should be those in which we feel competent; thus, until and unless resources change, we will regularly offer four. American politics, comparative politics, international relations, and public policy and administration. While we will not foreclose other options, a major is normally expected to choose from among these four. Exceptional students have the additional option of participating in the departmental senior thesis program in the senior year.

Program Requirements

The major is required to take a total of nine government courses, Government 180., three subfield related courses, and Economics 10.

All majors are required to take Government 180.: Introduction to Political Investigation. This course aims to introduce and develop skills in analyzing normative argument, formal political theory, and the principles of empirical investigation. The course is taught with a standard structure, aims, and assignments, but not with standard substance. The substantive content of the course can vary with the instructor because the aims of the course can be achieved using readings and research from any of the conventional subfields of political science.

A current list of subfield related courses is published in the Government Department Handbook.

The relationship between politics and economics and between the respective disciplines is so fundamental that all majors are required to take Economics 10.

The remaining program course requirements are two: (1) one course in normative political theory and, (2) one course in research skills applicable to the major's sub-field. The normative theory requirement can be satisfied with any of the theory courses offered in the Department of Government and International Relations, though ordinarily most students are expected to meet the requirement with 205. or 206. The research skills requirement

can be met with 107. (Research Methods in Politics), or with an appropriate course from another discipline. (A list of such courses is available in the Department of Government and International Relations Office.)

Subfield Specialization

The major must take one subfield introductory course, two additional government courses in that subfield, and three related courses from other disciplines. Three government courses must be selected from outside the subfield. (Lists of related courses for each subfield are available in the Department of Government and International Relations Office.) Each of these three major disciplinary subfields are themselves open to a variety of topical emphases, thus allowing flexibility for undergraduate course selection.

In sum the major requirements are:

Government 180.;

Economics 10.;

One research methods course;

One normative political theory course;

A subfield specialization including an introductory course and two other courses;

Three subfield related courses;

Three government courses not in the subfield.

STUDENT HANDBOOK

The Government Department annually publishes a handbook which has a more extensive description of programs, courses, and faculty, as well as other information relevant to the major or interested student. Copies are available in the Academic Center, Room 302.

SENIOR THESIS PROGRAM

The Senior Thesis Program is intended to give the exceptional senior an opportunity to pursue an intensive course of study of her or his own choosing under the direction of a member of the Government Department faculty. The program culminates in a thesis completed during the last term of the senior year. The program normally consists of one credit per term beginning the first term of the senior year.

The thesis must be in completed form two weeks prior to the final semester of the program.

Any government major with a grade point average of 3.20 or better who is interested in pursuing an intensive course of study in a particular area is eligible to participate in the Senior Thesis Program. In special cases students with a GPA of 3.0 or better can qualify with provisional status. Provisional status means that the student begins an independent study project which is then reviewed by the department faculty after one semester when a final decision on admission is made.

Applications should be submitted to the chairperson of the Government Department before the completion of the term preceding the semester in which the applicant wishes to begin a program.

A complete application consists of a one or two page typed proposal describing the student's project and course of study, and a transcript of the applicant's academic record. Proposals are expected to be substantial, containing a fairly specific statement of hypotheses or theories to be tested, questions to be explored, and the method and research to be used in the program.

All applications are reviewed at a meeting of the faculty of the Government Department. Applicants are evaluated as to their ability to work independently, intellectual ability, the appropriateness of their acquired skills, and other factors which indicate the likelihood that the applicant can successfully complete the program. Each applicant will receive notification of the department's decision on his or her case. Review or appeal of the decision can be made through the department chairperson.

HONORS IN GOVERNMENT

Outstanding senior theses may be nominated for Departmental Honors. Initial nomination of a thesis for

consideration for Honors normally will come from the first reader of the thesis (the faculty adviser). If a participant wishes her or his thesis to be considered for Honors, a first draft must be completed by mid-term of the last semester of the program.

When a thesis is nominated for Honors, the department appoints an Honors Committee composed of three faculty members, including the first reader, to supervise the completion of the program.

A completed thesis must be submitted to the Honors Committee by April 1 (December 1 for January graduates).

At the conclusion of the program the Honors candidate will be given a comprehensive oral examination, administered by the Honors Committee, covering the thesis and its field. According to the Committee's evaluation of the thesis and the comprehensive exam, the faculty will decide whether or not to award the student Honors and, if Honors is awarded, whether it is Honors, High Honors or Highest Honors.

PUBLIC AFFAIRS RESEARCH CENTER

The Public Affairs Research Center (PARC) is a research branch of the Government Department. PARC conducts a series of regularly scheduled sample surveys of the Massachusetts adult population. The purpose of the surveys is to assess the sentiments of Massachusetts residents about specific and timely public issues, as well as attitudes and behavior of a more general and continuing nature. The results of the surveys are released to the news media and public officials, and are available to the general public upon request. PARC plans to expand these surveys to the entire New England region in the near future. In addition to sample surveys, PARC also conducts contract research in the area of policy analysis.

PARC is an important educational resource within the Clark community. Students interested in courses in public opinion, survey research, decision-making, and campaigning will find such courses offered by Government Department faculty. Students interested in practical experience in a research center can take advantage of the internships and special projects available in PARC. And students interested in part-time employment as interviewers for PARC's statewide surveys will have the opportunity to combine both part-time work and an interesting educational experience.

The program is administered by Professors Blydenburgh and S. Taylor.

PROGRAM AND GENERAL COURSES

101. INTRODUCTORY CASE STUDIES.

See Science, Technology and Society 101. Full course, Semester 2.

Mr. Kasperson.

107. RESEARCH METHODS IN POLITICS.

Students will be exposed to some of the basic tools useful for analyzing and creating data in political research. Included will be some elementary non-parametric statistics, hypothesis testing, and measurement theory.

Full course, Semester 1.

Mr. Blydenburgh.

125. DEVELOPMENT PROBLEMS.

See Geography 125. Full course, Semester 1.

Mr. Berry, Ms. Enloe, Staff.

180. INTRODUCTION TO POLITICAL INVESTIGATION.

This course is designed for intended majors. Students wishing to get a general survey of the discipline are urged to take another 100-level offering. What is politics? People in the world of politics — ideologies and the quest for power. Theoretical and empirical approaches to the study of politics are considered. Techniques of political analysis are applied in a variety of settings. Topics vary by section, but common assignments are used to develop research and analytical skills. Students who have completed Government

Ms. Enloe.

205. ROOTS OF POLITICAL THOUGHT.

A study of the development of Western political thought from the Socratic philosophies to Hobbes. The study will deal with the evolution of political thought in the context of influential, social, political, and economic forces.

Full course Semester 1

Mr. Rasmussen.

206. RECENT POLITICAL THEORY.

A study of modern political theory as developed in the context of the social, political, and economic forces which have shaped Western thought since the French Revolution. Full course, Semester 2.

Mr. Rasmussen.

214. SEMINAR: BUSINESS AND POLITICS.

This course will examine the social responsibility of business to a community both from a theoretical and a practical point of view. The theoretical aspects will be explored through a series of assignments of major writers in this area. The practical aspects will be dealt with through the use of community resources in, for example, the legal, educational, and political sectors. This course will take the place of the tutorial program; it will therefore offer the latitude of individualized reports in specific areas of interest. Enrollment is limited to 20 students.

Full course, Semester 2.

Mr. Rasmussen.

226. TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT.

See Science, Technology and Society 226.

Full course, Semester 2.

Mr. Kasperson, Mr. Kates.

230. PRINCIPLES OF POLITICAL GEOGRAPHY.

See Geography 230.

Full course, Semester 1.

Mr. P. Taylor.

239. THE EUROPEAN COMMUNITY.

See Geography 239

Full course, Semester 1.

Mr. P. Taylor.

247. INTERMEDIATE STATISTICAL TECHNIQUES.

See Geography 247.

Full course, Semester 2.

Mr. P. Taylor.

278. ELECTORAL GEOGRAPHY.

See Geography 278.

Full course, Semester 2.

Mr. P. Taylor.

279. SEMINAR IN REGIONAL AND LOCAL PLANNING IN THE UNITED KINGDOM.

See Geography 279.

Full course, Semester 2.

Mr. P. Taylor.

290. PUBLIC OPINION POLLING AND SURVEY RESEARCH.

Not offered, 1978-79. This course is designed to introduce students to the study of public opinion polling and survey research. Its content includes both theoretical and practical aspects of survey reseach methodology,

each of which will be analyzed from a critical perspective. Mr. S. Taylor. Full course.

297. SENIOR THESIS IN GOVERNMENT AND INTERNATIONAL RELATIONS.

Variable credit. Semesters 1, 2,

Staff.

298. DECISION THEORY.

This course covers the basic literature of decision theory emphasizing game theory and models of non-market decision making. Descriptive and prescriptive theories which cover both individual and group decision making will be considered. Full course, Semester 2. Mr. Blydenburgh.

299. HONORS IN GOVERNMENT AND INTERNATIONAL RELATIONS.

Variable credit, Semesters 1, 2,

Staff.

370. POLITICAL SCIENCE RESEARCH: TECHNIQUES AND METHODS.

The major concern of this seminar will be in gaining an understanding of those social science techniques and methods which are most appropriate to conducting political science research. The course will begin with consideration of how one develops a research design, generates hypotheses, and builds theories. General topics to be discussed include causal thinking. the notion of controls, and the concepts of validity and reliability. Specific topics will include survey research, aggregate analysis. content analysis, simulation, correlation and regression analysis. and factor analysis. In addition, special attention will be given to problems involved with doing cross-cultural research and analyses through time. Open to graduate students and to advanced undergraduates, with the permission of instructor. Full course, Semester 1. Mr. S. Taylor.

READINGS, RESEARCH AND THESIS COURSES.

77. INTERNSHIP.

Variable credit.

Semesters 1, 2,

Staff.

88. DIRECTED READINGS.

Variable credit.

Semesters 1, 2,

Staff.

89. SPECIAL PROJECTS.

Variable credit.

Semesters 1, 2,

Staff.

AMERICAN POLITICS

150. INTRODUCTION TO AMERICAN GOVERNMENT.

This is an introductory study of the processes and efficacy of the American governmental system. Primarily devoted to an overview of contemporary aspects of the national government, the course includes problems of federalism, salient civil liberties issues, and the roles of Congress, the President, the Supreme Court, and political parties in the decision making process. Full course, Semester 1. Mr. Cohen.

170. CITIZEN PARTICIPATION IN AMERICAN POLITICS.

This course examines the question of citizen participation in the American political system. The focus is on problems of defining participation, determining how much citizen participation there is in America, examining what factors lead citizens to participate. and the effect of participation on governmental actions. Voting, campaign activity, community service and protest behavior will be considered as modes of participation. The place of citizen participation in a democratic society will be examined from the perspective of both "elitist" and "citizenship" theories of democracy. Full course, Semester 2. Mr. S. Taylor.

173. URBAN GOVERNMENT AND POLITICS.

The primary focus of this course is on the various socio-economic and political inputs that affect the functioning of American urban political systems. What are the resources and constraints which the inputs place upon and provide for the decision makers? Topics to be discussed include: the social, economic, and political nature of the city; the effects of the state and federal governments; relations between city and suburb; political structures and styles: the distribution of power and race; ethnicity and ethos theory. In the later part of the course, some attention will be given to differences in urban policy outputs, primarily in the fields of education and welfare. Where relevant differences and similarities in the politics of urban areas outside the United States will be

Staff.

175. WOMEN AND POLITICS.

This is an exploration of the political behavior of American women and of the factors which condition their behavior, including: socialization and learning of sex roles; social background and life situation variables; and historical arrangements of political institutions. Among the questions to be considered are: Why are women generally less interested, less active, and less efficacious politically than men are? What are the characteristics of those women who do engage in political activity? What is the likely impact of the Women's Liberation Movement and women's issues on the future behavior of women in politics? Prerequisite: one previous government course. Staff. Full course, Semester 1.

204. SEMINAR IN AMERICAN PRESIDENCY.

Not offered, 1978-79.

This is a study of the Constitutional and other powers and functions of the President and the Presidency via selected readings and individual research.

Full course. Mr. Cohen.

209. THE U.S. SINCE 1945.

See History 209. Full course, Semester 2.

Mr. Formisano.

220. URBAN GOVERNMENT AND POLITICS.

Not offered, 1978-79.

The primary focus of this course is on the various socio-economic and political inputs that affect the functioning of American urban political systems. What are the resources and constraints which the inputs place upon and provide for the decision makers? Topics to be discussed include: the social, economic and political nature of the city; the effects of the state and federal governments; relations between city and suburb; political structures and styles; the distribution of power, and race; ethnicity and ethos theory. In the later part of the course, some attention will be given to differences in urban policy outputs, primarily in the fields of education and welfare. Where relevant, differences and similarities in the politics of urban areas outside the United States will be considered. Open to sophomores, juniors, and seniors. Full course. Ms. Krefetz.

221. SUBURBIA: PEOPLE AND POLITICS. Not offered, 1978-79. The growth of suburbs in the United States since the end of World War II has had considerable impact upon the nature of our metropolitan areas. Why has this growth occurred? What are the characteristics of the people who live in suburbs? Is suburban homogeneity a myth or reality? How are suburbs governed? What is political participation like? What sorts of issues are important to suburbanites? Is there a national suburban policy? Should there be one? These are the major questions to be explored in this course. This course is open to sophomores, juniors and seniors Full course. Ms. Krefetz.

222. SEMINAR: PUBLIC POLICIES AND AMERICAN CITIES.

Not offered, 1978-79.

What difference does it make "who governs?" What sorts of variations are there among cities in their policy outputs in such areas as welfare, education, poverty, health, the police, and the criminal courts; and what accounts for the differences? After a critical review of the existing literature, research will be conducted on a policy area of the student's choosing in Worcester and/or other cities. Prerequisite: Government 220. Full course. Ms. Krefetz.

223. SUBURBAN POLICY ISSUES. Not offered, 1978-79. This seminar will pick up where the introductory suburban politics course leaves off and explore politics and policy-making on several major issues in suburban communities, e.g. zoning and land use,

education, and property taxes. Students will conduct original research on these issues in Worcester and Boston suburbs. Prerequisite: Government 221 or permission of instructor. The course is limited to 15 students.

Full course. Ms. Krefetz.

224. BLACK POLITICS IN THE UNITED STATES.

Not offered, 1978-79.

This course will analyze the distribution of power as it affects the Black community. Among those topics to be explored will be: Black congressmen and lobbies, Black politics in cities, the impact of Blacks on the bureaucracy and a comparison of Northern and Southern Black politics.

Full course. Ms. Enloe.

225. POLITICS OF BUREAUCRACIES. Not offered, 1978-79. Bureaucrats are among the most neglected — and influential actors in contemporary politics. This course will examine the dynamics of bureaucratic politics in the U.S., with a special concern for federal level departments. Some of the questions to be pursued are: How much control does the White House exercise over federal agencies? Has "Watergate" had a lasting impact on bureaucratic operations? Why are some departments, such as Treasury and Defense, so much more influential in bureaucratic competition than others? How do bureaucrats cultivate their clienteles? This course is open to majors and non-majors. Some previous courses in government will be helpful. Full course. Ms. Enloe.

231. SEMINAR IN POLITICS AND ENVIRONMENT.

See Geography 231.

Full course, Semester 2. Mr. Kasperson.

251. AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS.

This is a study of the structure and functioning of the American party system and the role of selected interest groups in American politics including some ethnic and economic influences. Special emphasis is placed on the processes and problems involved in the nomination and election of the President. Prerequisite: American Government desirable, but not required. Full course, Semester 1. Mr. Cohen.

253. AMERICAN CONSTITUTIONAL LAW -NON-CIVIL LIBERTIES ASPECTS.

This is a study of the major non-civil liberties developments and problems of American Constitutional law and judicial behavior approached primarily by analysis of court cases. Both topical and, in some areas, developmental analyses are utilized. Major areas covered are: the constitutional powers of the three branches of the government, federalism, the development of the commerce and taxing powers, and contract clauses and the development of due process. Emphasis on class discussion. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Cohen.

254. AMERICAN CONSTITUTIONAL LAW AND CIVIL LIBERTIES.

Not offered, 1978-79.

This is a study of some of the major developments and problems of American Constitutional law and judicial behavior in the area of civil liberties approached primarily by the case method. Topics usually explored include such issues as freedom of speech, press and religion, and civil rights. Opportunities are afforded for study of selected aspects of the rights of a person accused of a crime. Emphasis is placed on recent and contemporary developments and on class discussion. Prerequisite: permission of instructor. Full course. Mr. Cohen.

255. SEMINAR IN THE LEGISLATIVE PROCESS.

This is a study of policy making in Congress, involving problems of legislative organization and procedure, leadership, and presidential-legislative relationships; examined primarily by the

case method and by individual research on particular pieces of recent legislation. Prerequisite: permission of instructor. The course is limited to 10 students.

Full course, Semester 2.

Mr. Cohen.

294. ELECTORAL BEHAVIOR.

Not offered, 1978-79.

Contemporary studies of voting behavior will be used to explore the meaning of elections as the linkage between government and citizenry. The course will address the questions of who votes and why, and it will aim to identify and explain long term trends in elections by focusing on the theory, methods, and data of recent political research.

Full course.

Mr. Blydenburgh.

COMPARATIVE POLITICS

106. COMPARATIVE POLITICAL SYSTEMS.

The course approaches the pitfalls and rewards of comparative analysis from three directions. First, we will concentrate on a single foreign political system in all its complexity (e.g., Britain, Mexico, Japan, etc.) Second, we will look at one political issue (e.g., pollution, crime, land reform) to see how several different countries cope with demands. Finally, we will examine one concept used by political scientists to compare political systems (e.g., recruitment, ideology, etc.). This course is open to majors and non-majors.

Full course, Semester 2.

Ms. Enloe.

108. COMPARATIVE POLITICS OF WOMEN.

This course will examine the roles, influence, and participation of women in several different political systems. Changes — and lack of genuine changes in women's political status — will be compared within the context of the entire political system (ideologies, bureaucratic organizations, party systems, class and ethnic cleavages, etc.). At least one previous course in Government or Women's Studies is strongly advised.
Full course, Semester 1. Ms. Enloe.

167. REVOLUTION AND POLITICAL VIOLENCE.

The roots of political violence and revolution — social change, political legitimacy, and individual psychology. Specific revolutions studied through the writing of participants, popular writers, and political analysts. External intervention in domestic rebellions is studied.

Full course, Semester 1.

Ms. Craig.

182. COMPARATIVE EUROPEAN POLITICAL SYSTEMS.

A comparative study of the major West European political systems. Study of the political historic development will lay the basis for comparison of modern functions of government. Stress is placed on political socialization and its importance for comparative politics.

Full course, Semester 1.

Mr. Rasmussen.

226. POLITICS OF THE MIDDLE EAST.

Political change within Middle Eastern countries from North Africa to Afghanistan will be studied. Attention will be given to social structure, styles of political competition, leaders and ideologies, and the relationship between political and economic life.

Full course, Semester 1.

Staff.

228.3. SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: Not offered, 1978-79.

This seminar will explore the meaning of "ethnicity" for groups as different as South African Afrikaners, Iraqi Kurds, and French Canadians in the context of political development and political conflict. Some previous study of comparative politics, history, or sociology will be very useful.

Full course.

Ms. Enloe.

235. COMPARATIVE BUREAUCRATIC POLITICS.

In both industrialized and developing nations, bureaucratic departments have been critical to policymaking and implementation. This course will use cases from Europe, Africa, and Asia to test generalizations about bureaucrats' impact on their political systems.

Full course, Semester 1.

Ms. Enloe.

236. POLITICS OF SOUTHEAST ASIA.

This course analyzes the changes, or blockage of changes, that have occurred in the area since 1945. Social, economic, cultural, and foreign factors shaping politics are examined. All countries will be discussed but focus will be on Malaysia, Indonesia, the Philippines, and Vietnam.

Full course, Semester 2.

Ms. Enloe.

237. POLITICS OF SCANDINAVIA. Not offered, 1978-79. This course will analyze twentieth century political thinking with specific reference to Scandinavian thought and political systems.

The examination will be of major trends as they constitute either unique Scandinavian developments or reflect a broader European pattern of thinking.

Full course.

Mr. Rasmussen.

265. POLITICS OF JAPAN.

Not offered, 1978-79.

Japan is considered today one of the world's four great powers. Yet its internal political dynamics are not widely understood by Americans. This course will explore the major factors that have shaped Japanese politics and government policies since 1945. Among the topics that will be analyzed are: the group loyalties of Japanese; the factional rivalries within major parties; the influence of bureaucrats; the ambivalence that plagues Japan's foreign relations. The course is open to majors and non-majors. Those interested in pre-1945 Japan are urged to take the course offered in History. Some previous courses either in government or in Asian studies are helpful.

Full course.

Ms. Enloe.

280. AFRICAN VERSUS EUROPEAN CULTURE: CASE STUDIES FROM WEST AFRICA.

See History 280.

Full course, Semester 1.

Mr. Von Laue.

INTERNATIONAL RELATIONS

169. INTRODUCTION TO INTERNATIONAL RELATIONS.

This course will seek to develop a general understanding of international relations study. It will focus on problems of conceptualizing the international system, issues of theoretical inquiry, and the interaction of states in analytical form. Current international relations will be drawn upon to illustrate the complexity of interstate relations. No prerequisite.

Full course, Semester 1.

211. EUROPEAN INTEGRATION.

This course will examine the social and political development in West European politics, the historical roots of European integration, the founding of the EEC, and an analysis of some contemporary policy problems in West Europe.

Full course, Semester 1.

Staff.

212. POLITICS OF ADVANCED INDUSTRIAL SOCIETIES.

This is an examination of the political, social, and economic structures of Western Europe, Japan, and the United States, with particular focus on some of the major issues in social welfare and industrial policies confronting advanced industrial societies.

Full course, Semester 2.

Staff.

239. AMERICAN FOREIGN POLICY.

This is an examination of the major domestic and international constraints on U.S. foreign policy.

Full course, Semester 2.

Staff.

249. INTERNATIONAL POLITICAL ECONOMY.

This course examines how international economic relationships involving trade, capital transfers, and population (labor) movements affect domestic political and economic development. Topics to be discussed include imperialism, dependency, interdependence, and integration. The focus is not limited to lesser developed countries. Equal weight is given to the examination of industrialized nations.

Full course, Semester 1. Staff.

PUBLIC POLICY AND ADMINISTRATION

109. INTRODUCTION TO PUBLIC POLICY AND ADMINISTRATION.

This course focuses on the administrative dimension of the public policymaking and policy implementation process. The course describes the environmental setting of American public administration, describes selected problems and perspectives in public administration, explicates the historical and philosophical context of administrative action, reviews the procedural and institutional networks in the administrative process, and presents selected frameworks utilized for organizing the technical dimension of the policy process. Prerequisite: Government 150. or permission of instructor.

Full course, Semester 1. Mr. Hegedus.

110. DIMENSIONS OF ADMINISTRATIVE PRACTICE.

This is a laboratory oriented course. Case studies, organizational problem solving, team-building, role-playing, field studies are intended to provide basic administrative skills and capabilities.

Full course, Semester 2.

Mr. Hegedus

213. POLICY ANALYSIS.

Policy analysis is a means of critically examining public programs in order to provide decision makers with information on which to make policy decisions. Policy analysts use a variety of techniques such as evaluation research, program budgeting, and survey research. In times of financial and political crises, when governments must make critical choices, the work of the policy analyst is crucial. This course will examine (1) the purpose and context of policy analysis; (2) the various methods that are used in doing it; and (3) the implementation requirements and constraints involved in applied policy research. Both theoretical and applied case materials will be used in this course. Students will engage in a policy analysis project, critique some examples of policy research and are expected to participate fully in class discussions. The class is limited to 25 students. Full course, Semester 1. Staff.

296. EVALUATION RESEARCH.Not offered 1978-79. This course will focus on the purposes, design, and utilization of this increasingly popular research technique.

Full course.

398. STATE AND LOCAL POLITICS. Not offered 1978-79. This course will examine the structure, politics, and policies of state and local government.

Full course. Staff.

German

(See Department of Foreign Languages and Literatures.)

Hebrew

(See Department of Foreign Languages and Literatures.)

History

DEPARTMENT FACULTY

Daniel R. Borg, Ph.D., Associate Professor of European History, Department Chairperson

George A. Billias, Ph.D., Professor of American History Robert F. Campbell, Ph.D., Professor of American History Tamara K. Hareven, Ph.D., Professor of American History Dwight E. Lee, Ph.D., Professor of European History, Emeritus Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of European History

Richard B. Ford, Ph.D., Associate Professor of African and Comparative History, Co-director, International Development and Social Change

Ronald P. Formisano, Ph.D., Associate Professor of American History

Douglas J. Little, Ph.D., Assistant Professor of American History Paul Lucas, Ph.D., Associate Professor of European History Paul F. Burke, Ph.D., Assistant Professor of Classics, Adjunct in History

William Koelsch, Ph.D., Associate Professor of Geography, University Archivist, Adjunct in History

Thomas C. Barrow, Ph.D., Affiliate in History

Marcus A. McCorison, M.S., Director of the American Antiquarian Society, Affiliate in History

ichael Sokal, Ph.D., Associate Professor of History at WPI, Affiliate in History

UNDERGRADUATE PROGRAM

Students choose a history major for different reasons. Those preparing for careers in government, law, and sometimes business choose the major for the opportunity it offers in gaining insight into the diversity of human affairs. They desire a humanistic study geared toward a practical end. Others view the history major as the broadest and most flexible one in which to study their particular interests from a number of perspectives. Some are committed historians before they arrive at Clark. Their counterparts are those who gravitate into a history major by a process of elimination. For history majors and non-majors alike, history provides an insight into their own Individual and collective pasts and, therefore, into their own identities. History courses also introduce them to the non-western world by giving them some understanding of the historical evolution of other peoples and cultures.

UNDERGRADUATE MAJOR

Staff.

(Consult the handbook for undergraduates *Studying History at Clark* for an elaboration of the major and its options. The handbook is available in the History Office.)

The department is presently implementing new major requirements. If you entered Clark as a freshman before 1978 or as a transfer student in 1978 or before, the *old major requirements* still apply to you:

- You take nine history courses and three related courses in economics, geography, government, psychology, and sociology.
- b) Of the nine history courses,
 - 1) two must be 200-level courses in American history, and
 - two must be 200-level courses in non-American history.
 If you entered Clark as a freshman in 1978 or after, you must

meet the new major requirements:

- a) You take nine history courses and four related courses in either the humanities or the social sciences. If you wish to focus on Science, Technology and Society (STS) and/or Environmental Affairs (EA), you take as related courses three in the social sciences and three in STS and/or EA.
- b) Of the nine history courses,
 - 1) one must be an introductory course (either History 110.,



- 120., 140., or 190.), preferably taken in your freshman year:
- 2) two must be 200-level courses in American history;
- 3) two must be 200-level courses in non-American history;
- one must be a "capstone" course, usually taken in the senior year.
- Your capstone course is determined by whichever of three tracks you choose to follow in your major:
 - For Track I: History 289. THE CONTEMPORARY AGE IN GLOBAL PERSPECTIVE.
 - For Track II, one of the following:
 History 204. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815.
 - History 210. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY SINCE 1815.
 - History 296. PRACTICUM IN THE TEACHING OF HISTORY.
 - History 197. RESEARCH PROJECTS (in your concentration).
 - History 298. DIRECTED READINGS (in your concentration).
 - 3) For Track III: History 293. HONORS THESIS RESEARCH.

The Three Tracks

In the new major, the department requires you to follow one of three tracks that indicate different levels of involvement in historical studies. Track I is designed for those who have a general focus in either the humanities or the social sciences. If you have a more specific interest, the department suggests that you follow Track II where you can "concentrate." Finally, if you wish to write a research thesis and take a comprehensive examination in your "concentration," you should follow Track III, the honors track. Your transcript will reflect which track you have followed.

Track I: For General Majors

Follow the general requirements, taking History 289., as the capstone.

Track II: For Majors Who Wish to Concentrate Their Courses Around Some Topic

As in Track I, you choose your history courses and related courses in one of the divisions (humanities or social sciences) according to your interests. Track II presupposes, however, that you have refined your interest to the point of concentrating specifically in some historical theme. You might wish, for example, to concentrate in American or Jewish thought and culture, or in European studies, and choose some theme within one of them by which you select history and related courses. The handbook for undergraduates Studying History at Clark contains examples of course choices for themes within each of these three concentrations. The history staff has also worked out hypothetical sequences of courses around some theme in each of twenty-five concentrations. These examples may be consulted in the History Office, in the library at the reserve desk, and in the office of each history adviser. Of course, you define your own theme in whatever concentration you choose. The capstone course that you choose should serve to develop your concentration.

Track III: For Honors Majors in Concentrations

As in Track I, you choose the divisional emphasis (humanities or social sciences), and, as in Track II, a concentration. You write a research thesis on some topic in your concentration (two course credits) and take a comprehensive examination on the theme of your concentration (after a reading course of one credit), both in your senior year. Honors students also take History 292., the honors proseminar, in their sophomore or junior years. The honors track is valuable not only for would-be professional historians but also for those who intend to pursue any career that requires analysis of complex issues and good writing. (A brochure on the honors program is available in the History Office.)

The new major is not formally a structured major, for no single course and no sequence of courses are required. The formal requirements, the tracks, and the examples of concentrations available for your inspection are meant to help you

plan a coherent major that accords with your interests. In these examples you can see that the department has tried to accommodate interests of majors as varied as social history, Russian studies, Black history, American political history, and German thought and culture.

Lack of a more precise formal structure in the major does not imply that you should ignore giving structure to your major. You should consult your adviser at registration each semester to help plan your course of study at Clark.

GRADUATE PROGRAM

The areas of graduate study at Clark are American history and modern European history, with select non-western history as supporting fields. Emphasis is placed on American history because of the department's affiliation with the American Antiquarian Society, which provides graduate students with the facilities of one of the country's finest research libraries, with over 750,000 volumes and many valuable manuscripts relating to early American history down to 1876. A dozen smaller libraries in Worcester, with combined holdings of over a million volumes, further extend the resources of the Clark library, as does easy access to Boston, Providence, and New Haven area research facilities.

The department offers graduate work in the form of reading seminars (colloquia), research seminars, and individual tutorials for both reading and research purposes. First and second year students take three courses each semester; one of these courses must be expressly devoted to research for the purpose of producing a substantial research paper. Beyond their research seminar, students fill out their program by taking colloquia, additional research seminars, and upper-division undergraduate courses. The chairman assigns incoming graduate students to faculty advisers, who help design their programs. With the permission of the adviser, a student is encouraged to take suitable courses in other departments or Consortium colleges.

Master of Arts

The department enrolls a limited number of terminal master's candidates and awards the degree to students who have completed the work of eight courses and a one-year residence requirement; have (1) either submitted two substantial research papers prepared in two seminars which are jointly equivalent to the master's thesis, or (2) submitted a master's thesis; and have passed the required oral examination.

Ph.D. candidates who have passed their preliminary examination, whether or not they will continue with a dissertation, may also receive the degree of Master of Arts.

DOCTOR OF PHILOSOPHY

The traditional doctoral program is designed to enable students to master the discipline of history through research, reading, and teaching. In addition to meeting the seminar and course requirements outlined above, a student who enters without an M.A. degree must spend at least three years in full-time residence at Clark, satisfy the language requirement, gain some experience in college teaching, pass the preliminary examination,* and write a doctoral dissertation within seven years of matriculation.

Language Requirement: Students concentrating in American and British history must pass an examination in one foreign language: French, German, Spanish, or Russian. Students concentrating in American history may substitute a program in quantitative techniques or computer science for a foreign language. Those specializing in European history must pass examinations in two foreign languages, normally French and German. The chairman will designate an examiner in each language, who will determine whether the student is proficient enough to use the language as a research tool. An entering student must take a language examination as soon as it is offered

in the first semester of residence, and must have passed this examination by the end of the first calendar year of residence in order to register for the second year. If required, the second language examination should be attempted early in the second year and must be completed before the student registers for the third year. All language requirements must be satisfied before the preliminary oral examination can be scheduled.

Teaching Experience: Some teaching experience at the college level is a prerequisite of the Ph.D. degree. Students normally meet this requirement in their second or third years as teaching assistants.

Fields: Soon after arriving at Clark, each student in cooperation with his/her adviser, defines four fields and prepares for them in whatever ways seem appropriate in view of her/his background and interests. Students specializing in American history normally offer the full scope of American history as two fields. Those concentrating in non-American history normally offer one American field (the dividing line between the two American fields generally falls at 1815). Any student may offer a nonhistorical subject as a field, usually within the social sciences, or prepare an interdisciplinary field.

Preliminary Examination: One of the four fields must be offered for oral examination at the end of the student's first year. Prior to taking the oral, the student must submit two research papers completed in the first year. The remaining three fields will be examined, again orally, at the beginning of the student's third year. The combined oral examinations constitute the "preliminary examination" required by the Graduate Board. Students who have passed their preliminary examinations may, upon request, receive the degree of Master of Arts.

Dissertation: Students are advised to consider and explore dissertation topics during their years of residence and to choose a possible dissertation adviser as soon as possible. The process of writing a dissertation is outlined in a brochure, "Dissertation S.O.P.," which may be obtained from the department secretary.

Deadline for Completion: All work required for the doctor's degree must be completed within a seven-year period after matriculation. In unusual circumstances only, such as involuntary military service or extended illness, the department may grant a specified extension of time.

DEPARTMENT COURSES

NOTE: Undergraduate courses are of two types: (1) courses designed for freshmen and sophomores and numbered 100-199. and (2) advanced courses numbered 200-299. The latter carry no prerequisite (unless specifically noted) and are open to freshmen and sophomores as well as upper-classmen without permission of the instructor. In case of doubt, these students should consult their instructor. The term proseminar indicates courses of limited enrollment which combine reading, discussion, and written reports. The term seminar indicates a research course.

U.S. HISTORY

110. INTRODUCTORY COURSE: INTRODUCTION TO HISTORY AND AMERICAN STUDIES.

This is an introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. (See also English 110.) Full course, Semester 1. Mr. Ford, Mr. Formisano.

116. RACE AND ETHNICITY IN AMERICAN HISTORY.

This course explores the changing racio-ethnic cultural configuration and social stratification through U.S. history. Beliefs and ideas reflecting racial and ethnic patterns will be examined to comprehend the intellectual tradition which imparted meaning to this changing social reality. Full course, Semester 2. Mr. Billias.

118. AMERICAN URBAN HISTORY.

This course is a survey of the economies, politics, patterns of mobility, spatial configurations, and cultural institutions of representative cities in four eras of American history; 1750-1780, 1820-1850, 1890-1920, and 1950-1980. Full course, Semester 2. Ms. Hareven.

120. INTRODUCTORY COURSE: AMERICA AND THE WORLD.

Not offered, 1978-79.

Mr. Billias.

This is a survey of America's contacts with other world civilizations throughout its history, with particular emphasis upon the emergence of the U.S. as a world power. Full course. Mr. Little, Mr. Billias.

200. AMERICA'S FORMATIVE YEARS.

The basic institutions of American civilization and the prevailing attitudes of the present were shaped in large measure during the colonial era. This course will deal with the foundations of such institutions as the family, church, and local community in America as well as the development of representative political institutions. There will also be an examination of American attitudes toward race, religion, class distinctions, cultural ethnocentrism, and imperial relations with the mother country during the same period. The aim of the course will be to analyze the reasons for two major. tendencies which seemed to develop in the American colonies: the erosion of traditional European attitudes toward authority, and the emergence of a psychology of accommodation resulting from the pressures arising from the increasingly pluralistic character of the population. Full course, Semester 1.

201. ERA OF THE AMERICAN REVOLUTION.

This course is an analysis of American society in the pre-Revolutionary period with particular emphasis upon the ideological and political developments that led to the War of Independence. Full course, Semester 2. Mr. Billias.

202. FORMATION OF THE NEW NATION. Not offered, 1978-79. This is an analysis of the American revolutionary experience, political theories in the making of the federal Constitution, problems of the new government, and developments in the American political tradition through the Jeffersonian era. Full course. Mr. Billias.

204. COLLOQUIUM: THE LITERATURE OF **AMERICAN HISTORY TO 1815.**

This is an undergraduate-graduate course that undergraduates may enter with the permission of the instructor. (See course description under History 304.) Full course. Semester 1. Mr. Billias.

206. 19TH CENTURY U.S. POLITICAL HISTORY.

This is an introduction dealing with the emergence of basic institutions, conflicts, and processes which became characteristic of modern American politics. Full course. Semester 1. Staff.

208. THE U.S. IN THE 20TH CENTURY.

This is a survey of the U.S. from the Progressive era through Watergate. The course emphasizes the emergence of modern American culture, the rise of an imperial presidency, and the growth of government intervention in the economy. Topics include the role of the mass media in creating a distinctively American culture, the impact of war on American society since 1917, and the continuing quest for minority rights. Full course, Semester 1. Mr. Little.

209. THE U.S. SINCE 1945.

The major theme is imperial America and the end of innocence. Politics are a major focus but not the only focus. Social, economic, demographic, and cultural trends are surveyed as well. Several topics are explored chronologically: The Cold War and domestic society; anti-Communism at home and abroad; welfare or warfare state; the "New Frontier"; the third Asian war-Vietnam; the black upheaval; race, class, and ethnicity; middle-class populism from Goldwater to McGovern; Nixon Agonistes; cultural politics; the corporate state; and the politics of resentment and Watergate. Mr. Formisano. Full course, Semester 2.

210. COLLOQUIUM: THE LITERATURE OF AMERICAN **HISTORY SINCE 1815.**

This is an undergraduate-graduate course that undergraduates may enter with the permission of the instructor. (See course description under History 310.) Mr. Formisano. Full course, Semester 2.

212. HISTORY OF THE FAMILY.

This course offers an exploration of historical changes in the family in American society with cross-cultural comparisons. The course emphasizes the relationship between industrialization and family behavior, the interaction between the family and other social institutions, and historical changes in the life cycle and family cycle.

Full course, Semester 2.

Ms. Hareven.

213. SEMINAR: AMERICAN URBAN HISTORY.

Not offered, 1978-79.

This is an undergraduate-graduate seminar that undergraduates may enter with permission of the instructor. (See course description under History 313.) Ms. Hareven. Full course.

214. U.S. SOCIAL HISTORY.

Full course.

Not offered, 1978-79. Ms. Hareven.

217. SEMINAR: THE FAMILY IN HISTORICAL PERSPECTIVE.

This seminar examines the role of the family in the transition from a rural to an industrial society in New England, with respect especially to changing work roles. Students participate in original research and in field study at Old Sturbridge Village. Prerequisite: permission of instructor.

Variable credit, Semester 1.

Ms. Hareven.

219. HISTORY OF AMERICAN WOMEN.

This is a comprehensive social history of American women from colonial times to the present. The roles and status of women in economy, family, and political life as well as psycho/cultural definitions of women are examined. Full course, Fifth Module. Ms. Brengle.

221. U.S. BLACK HISTORY.

Staff.

Full course.

223. U.S. JEWISH HISTORY.

Not offered, 1978-79.

Full course.

225. PROSEMINAR: VICTORIAN BOSTON.

Not offered, 1978-79,

Intellectual currents, cultural movies, the arts, and institution building in nineteenth century Boston are examined as a case study in the "culture" (high, middle, and low) of a Victorian city. Full course. Mr. Koelsch.

226. BUSING IN BOSTON, 1974-76: AN HISTORICAL INQUIRY.

Not offered, 1978-79. This is a double-credit seminar, interdisciplinary, interinstitutional.

It explores the history of: (1) the legal framework, (2) ethnic groups, (3) Blacks, (4) politics since 1960, (5) desegregation in other cities, and (6) residential segregation. Prerequisite: permission of instructor. Mr. Formisano. Double course.

228. RIGHT-WING MOVEMENTS, 1790-1970.

Not offered, 1978-79.

This course examines Wallace, McCarthyism, American fascism, Social Justice, Red Scare, A.P.A., Know nothing, Antimasons, Antiilluminati, and other movements. Prerequisite: permission of instructor.

Full course.

Mr. Formisano.

230. SEMINAR: RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN REPUBLIC.

This is an undergraduate-graduate course that undergraduates may enter with the permission of the instructor. (See course description under History 330.) Mr. Billias. Full course, Semester 2.

231. SEMINAR: AMERICAN POLITICAL HISTORY.

Not offered, 1978-79.

This is an undergraduate-graduate course that undergraduates may enter with permission of the instructor. (See course description under History 331.) Mr. Formisano. Full course.

232. SEMINAR: 19TH CENTURY PARTIES AND SOCIAL MOVEMENTS.

This is an undergraduate-graduate seminar that students may enter without the permission of the instructor. (See course description under History 332.) Mr. Formisano. Full course, Semester 1.

234. AMERICAN CONSTITUTIONAL HISTORY.

Not offered, 1978-79.

The course examines the origins and development of the American constitutional system with special reference to the role of the Supreme Court.

Full course.

Mr. Campbell.

235. AMERICAN CONSTITUTIONAL LAW. Not offered, 1978-79. This is a study of the major and non-civil liberties developments and problems of American constitutional law and judicial behavior, approached primarily by analysis of court cases. Areas covered are: the constitutional powers of the three branches of government, federalism, the development of the commerce and taxing powers and contract clauses, and the development of due process. Prerequisite: permission of instructor. (See also Government 253.) Mr. Cohen. Full course.

237. U.S. FOREIGN RELATIONS TO 1900.

This course studies the creation of an American continental empire from the Revolution to the Spanish-American War. The course emphasizes the role of the main policymakers (Franklin through McKinley) in shaping American territorial and commercial expansion. Major themes include diplomacy and the making of the U.S. Constitution, the influence of sectional conflict on ante-bellum foreign policy, and the economic aspects of American expansion after the Civil War.

Full course, Semester 1.

Mr. Little.

238. U.S. FOREIGN RELATIONS SINCE 1900.

Students will examine the emergence of the U.S. as a major world power in the twentieth century. The course focuses on the domestic sources of foreign policy and the assumptions of the major policymakers (Wilson through Kissinger). Important themes include the American response to a revolutionary world since 1910, the increasingly dominant role of the president in the making of U.S. foreign policy, and the changing position of the U.S. in the international economy. Mr. Little. Full course, Semester 2.

90 HISTORY

239. NOSTALGIA: THE FASCINATION WITH GOLDEN AGES.

Why do other ages seem better than our own? What is it that makes old things and old ways seem more "authentic"? How is nostalgia exploited for commercial and political advantage? How have people in other times mystified the past? Topics include: folk imagery, the Victorian revival, genealogy boom, antiques, tourism, and nostalgia heroes. (See also English 274.) Full course, Semester 1. Mr. Belasco.

240. AMERICAN CULTURE AND SOCIETY, 1820-1860.

This course is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention is paid to the cultural geography, the arts (primarily literature and painting), and to some significant political and social issues of the period. Some of the germinal works in American Studies (Leo Marx's The Machine in the Garden and R.W.B. Lewis' The American Adam, for example) are read to provide contexts for the study of representative cultural and social expressions of the period. These expressions include wilderness, pastoral, smalltown, and urban landscapes; landscape and portraiture in painting; writings of Emerson, Hawthorne, and Melville; and Jacksonian. thought and politics.

The 1978-79 course is taught as a cluster course by Mr. Formisano, Mr. Conron, and members of the staff at Old Sturbridge Village, under the auspices of the Clark Program of Humanistic Studies. (See also English 240., and Geography 240.) Full course. Semester 2.

241. AMERICAN THOUGHT AND CULTURE SINCE 1860.

The course examines selected cultural patterns and themes in American thought from the Civil War onward. Readings and discussions draw on multiple disciplinary perspectives. Full course, Semester 2. Mr. Koelsch, Staff.

242. THE CULTURE BUSINESS.

Who produces and sells the dreams and ideals that inspire our daily lives? How are values, artistic insights, myths and symbols converted into profitable commodities? What is the relationship between the creative artist and the marketplace, and how has this relationship changed over time? Using an interdisciplinary approach, we will look at the following culture industries: publishing, movies and TV, tourism, advertising, art galleries. records, and, for historical comparison, nineteenth century theater. (See also VPA 100.) Full course, Semester 2. Mr. Belasco.

243. AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES.

This is an undergraduate-graduate seminar that undergraduates may apply for through Mr. Formisano or Mr. Billias. (See course description under History 343.) Full course, Semester 1.

244. A RELIGIOUS HISTORY OF THE AMERICAN PEOPLE.

This course explores the roots and course of America's religious experience: the religious turmoil in the process of colonization, the religious commonwealths of New England and their influence on American thought, the Great Awakening, democratic evangelicalism, the challenge of the Roman-Catholic migrations, anti-Catholicism and the nativist movement, early Judaism, the age of liberal theology in American Protestantism, and social movements within the churches. In the twentieth century topics include: black religion, occultism, non-Western religion, harmonial ecumenism, the ancient Eastern churches in America, and Catholic renewal.

Full course, Semester 2.

Father Boucher.

246. SEMINAR: HISTORY OF AMERICAN HIGHER EDUCATION.

Not offered, 1978-79. The course considers the role of higher education in American life, with emphasis on the rise, character, and impact of the American university. There will be reading and discussion of selected

secondary works, followed by intensive research in primary materials on a topic of the student's choice. (See also Education

Full course.

Mr. Koelsch.

285. PROSEMINAR: THE MULTINATIONAL CORPORATION.

See course description under International Development. Full course, Semester 2,

EUROPEAN HISTORY

121. INTRODUCTION TO GREEK CULTURE. ART, AND ARCHEOLOGY.

This is a general introductory survey of ancient Greek culture and history covering: the Bronze Age civilizations of Crete and Mycenae, the Classical Greek city-states, the conquests of Alexander and the emergence of international urban culture in the Mediterranean world. There will be readings in the works of ancient authors, chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archeology are illustrated by slides. (See also Classics 121.) Full course, Semester 1. Mr. Burke.

122. INTRODUCTION TO ROMAN CULTURE. ART, AND ARCHEOLOGY.

This is a survey of ancient Roman culture and history, continuing the work of History (Classics) 121., and covering the rise of Rome in the Hellenistic world, the Roman Republic and Empire, the end of the ancient world, and the beginnings of Christian Europe. Readings in the works of appropriate ancient authors in translation are supplemented by secondary texts and by lectures on ancient art, politics, and religion. Many lectures are illustrated by slides. History (Classics) 121. is not a prerequisite, but is recommended. (See also Classics 122.) Full course, Semester 2. Mr. Burke.

150. NARRATIVE IN ANCIENT HISTORICAL WRITING.

This is a survey of ancient modes of writing and interpreting history. By reading selected works of ancient authors in translation, students will examine the influence of myth, propaganda, and rhetorical stereotyping on the portrayal of characters, and events in ancient biographical and historical writing. (See also Classics 150.) Full course, Semester 2. Mr. Burke.

160. JEWS AND CHRISTIANS IN THE ANCIENT WORLD.

Not offered, 1978-79.

This course offers a historical and cultural survey of the complex and tumultuous period between the foundation of the Roman Empire and the sixth century A.D., when medieval culture was established in Europe. Two themes will dominate the course: (1) the struggle between pagan or Classical modes of thought and Judeo-Christian beliefs and values, and the assimilation of each in the other, and (2) the tension within the Christian movement between spiritual and practical concerns as the new religion came to dominate Western culture.

170. INTRODUCTORY COURSE: OUR EUROPEAN ROOTS.

The course is a history of Europe from the "fall" of Rome to the present. The principal goal of the course is to familiarize students from all departments and disciplines of study with the basic outlines of the development of Western society and therefore the character of our collective identity. For the would-be history major, a secondary goal is the presentation of the varieties of historical "angles" — cultural, political and military, economic and social, etc. — and the integration of these analytical approaches into a coherent, popular narrative. Full course, Semester 1. Mr. Lucas.

HISTORY 91

250. THE FORMATION OF THE MODERN STATE: GROUP CONSCIOUSNESS, INDIVIDUALISM, AND SOCIAL ORGANIZATION IN "OLD EUROPE," 1550-1789.

This is an examination of pre-French Revolutionary Europe as a corporative and customary political culture; a study of how that culture was altered by absolutism, militarism, mercantilism, early capitalism, modern science, and the requirements of the international system of European states; an appreciation of the social and ideological legacies of the ancient regime. Full course, Semester 2 Mr. Lucas.

251. THE COMPARATIVE STUDY OF REVOLUTIONS: THE FRENCH REVOLUTION OF 1789 AND THE BEGINNINGS OF Not offered, 1978-79. MODERN REVOLUTIONS.

This is an analysis of old and new ideas of revolution, including ritual, resistance, reactionary restoration vs. innovation; of the "democratic" revolution; of the psychology, sociology, and social psychology of revolutionary behavior; and of the relevance of the French Revolution to twentieth-century issues. Mr. Lucas. Full course.

252. 19TH-CENTURY EUROPE.

Full course.

This is a lecture and discussion course centering around the problems and dilemmas of various European political societies as they responded to the tug of modernity during the century of European preeminence throughout the world. Mr. Borg. Full course, Semester 1.

253. 20TH-CENTURY EUROPE. Not offered, 1978-79.

This is a lecture and discussion course concentrating on the characteristic problems of Europe in a half century of war, economic convulsion, and political instability. Full course. Mr. Borg.

254. PROSEMINAR: WORLD WAR I AND EUROPE.

Not offered, 1978-79. Mr. Borg.

255. PROSEMINAR: TOTALITARIANISM. Not offered, 1978-79. This is a study of the nature of totalitarianism and of the origins. ideology, and operation of the German Nazi and Russian Soviet realmes.

Full course. Mr. Borg.

258. INTRODUCTION TO WASP STUDIES: **ENGLAND'S "OLD REGIME."**

The course examines the formation of the peculiarities of the English "character," state, society, religions, and the world's first modern industrial economy, 1500-1850. To help students grasp these peculiarities, a special emphasis is placed on comparisons of England's experience with continental Europe's and on the use of historical psychology. Mr. Lucas.

Full course, Fifth Module

259. MODERNGERMANY. Not offered, 1978-79. The course offers an examination of the convulsive course of

German history over the past century. Full course. Mr. Borg.

260. MODERN SPAIN AND THE CIVIL WAR.

This is a study of the history of twentieth century Spain with emphasis on the origins and the implications of the Spanish Civil War. The course examines the political and economic modernization of Spain from 1898 through the Franco regime. Topics include the development of a republican tradition, the rise of the revolutionary left, and the role of the army in Spanish politics.

Full course, Semester 2.

Mr. Little.

263. IMPERIAL RUSSIA, 1825-1900. Not offered, 1978-79. This is an outline of Russian development in the nineteenth century. The emphasis lies on political history with occasional

exploration of literary and economic history as well. Full course.

264. REVOLUTIONARY RUSSIA, 1900-1924.

The central themes of this course are (1) the collapse of the tsarist regime and the rise of Soviet power and (2) the transformation of a social revolution into an unprecedented experiment of mobilizing a backward empire for global power. For the human dimension of this historic drama students read Pasternak and Sholokhov, writing a short paper on each. Full course, Semester 1. Mr. Von Laue.

265. THE SOVIET REGIME FROM STALIN TO THE PRESENT.

This course presents the rise of Soviet Russia as a super-power under Stalin and his successors, emphasizing the interaction between domestic mobilization and the role of the Soviet regime in the world. Reading includes contemporary sources from the Soviet Union and parts of Solzhenitsyn's Gulag Archipelago. Three short

Full course. Semester 2.

Mr. Von Laue.

Mr. Von Laue.

269. PROSEMINAR: SOCIAL AND CULTURAL HISTORY OF THE RENAISSANCE.

This is an introductory study of social structures and forms of thought and expression in Continental Europe from 1350 to 1550, emphasizing the tension between old traditions and new ideas, and the relation between intellectual and social change, during the transition from medieval to modern times. Selected topics include: household and family, the impact of printing, humanism and the revival of antiquity, religious movements and the occult, bourgeois and courtly art. Platonic and utopian idealism. Full course, Semester 1. Mr. Bumgardner.

271. IN SEARCH OF HUMANITY: 18TH-CENTURY **EUROPEAN INTELLECTUAL HISTORY.**

Students will study the "Enlightenment" and its heirs and critics: the scientific revolution, philosophical reformism, and early conservative romanticism. The emphasis is upon rival perceptions of man's psychological and social nature, history, and aesthetic and religious sensibilities as seen through great secondary treatments of the Enlightenment (which also introduce the student to various ways of doing intellectual history) and original sources: Hume, Beccaria, Rousseau, Condorcet, Kant, Burke, Savigny Full course, Semester 1. Mr. Lucas.

272. IN SEARCH OF HUMANITY: 19TH-CENTURY **EUROPEAN INTELLECTUAL HISTORY.**

This is a study of the elaboration of the "Enlightenment" by its heirs and critics. The emphasis is the same as in 264., but the focus shifts to an analysis of political and economic liberalism. Social Darwinism, racism, and "utopian" socialism in England and France followed by an analysis of nationalism, Marxism, positivism, old and new conservatisms, and the reassessment of the values and progress of European civilization among principally Italian and German thinkers. Full course, Semester 2. Mr. Lucas.

273. PROSEMINAR: EUROPEAN INTELLECTUAL HISTORY.

Not offered, 1978-79.

The course offers readings in the classics of modern European intellectual history. Mr. Lucas. Full course.

275. HISTORY OF CHRISTIANITY AND THE RISE OF WESTERN CULTURE.

This course explores the function of religious knowledge in the formation of human culture and the significance of religion in Western development. Chronologically, the course deals with Christianity and religion in the Roman Empire, the medieval world, the Reformation period, and modern Europe and America Father Boucher. Full course, Semester 1.

JEWISH HISTORY

160. JEWS AND CHRISTIANS IN THE ANCIENT WORLD.

Not offered, 1978-79.

See course description under European History in this section.
Full course.

Mr. Buri

223. U.S. JEWISH HISTORY. Full course.

Not offered, 1978-79. Staff.

276. MODERN JEWISH EUROPEAN AND SEPHARDIC HISTORY.

This survey covers the period to 1933. Included are emancipation and the development of Reform Judaism in Western Europe; political movements of East European Jewry, especially Jewish socialism; different forms of cultural and social change, including new evaluations of Hasidism; and the rise of political anti-Semitism. The effects on Jews of European religious toleration and nationalism and of modern economic systems will be examined. The impact of European colonialism on Jews in North Africa and the Near East will also be analyzed.

Full course, Semester 1.

Mr. Goldstein.

277. ZIONISM, 1897-1948.

This course considers the major highlights and personalities of the Zionist movement from its beginnings to the rise of Israel. Attention will be paid to the roots of the movement in Jewish culture and nineteenth-century experience. Basic ideological, political, socio-economic, and conceptual problems will be analyzed. Aspects of Arab nationalism and the role of American Jewry will be included.

Full course, Semester 2.

Mr. Goldstein.

278. THE HOLOCAUST.

Full course.

Not offered, 1978-79. Staff.

LATIN AMERICAN HISTORY

177. LATIN AMERICAN HISTORY SINCE 1825.

Not offered, 1978-79.

This is a survey of Latin American nations from independence to the present with emphasis on the twentieth century. Major themes include the persistence of neocolonial social and economic structures, the emergence of nationalist and revolutionary movements after 1900, and U.S.-Latin American relations.

Full course.

Mr. Little.

AFRICAN HISTORY

179. THE HISTORY OF TRADITIONAL AFRICA.

This is an introduction to the history of Africa south of the Sahara. The course will begin with the early civilizations of Kush, Axum, Ghana, Maili, Songhai, Benin, the Sanj, Kongo, and Simbabwe and continue through to the arrival of Europe. Attention will be given to eastern, western, and southern Africa. The approach will be largely historical and anthropological.

Full course, Semester 2.

Mr. Ford.

180. THE HISTORY OF MODERN AFRICA. Not offered, 1978-79. This course is an introduction to recent African history, especially south of the Sahara, but not to the exclusion of events in North Africa. The course will consider the impact of European institutions on Africa and Africans. Topics will include the slave trade, colonization, independence, post-independence, liberation, and development (or non-development). The approach will be both historical and economic with some attention to anthropological questions.

Full course.

Mr. Ford.

280. AFRICAN VERSUS EUROPEAN CULTURE: CASE STUDIES FROM WEST AFRICA.

The interaction of European and African cultures will be studied, from the beginning of European exploration to the present, with special emphasis on the area of modern Ghana. Topics vary from politics to economics, literature, anthropology and ethnology, religion and slavery, covering as many facets of the cultural interaction as possible. A special theme will be announced for this course whenever it is offered. Papers vary according to the theme. Full course, Semester 1.

ASIAN HISTORY

181. MODERN CHINA, 1644 TO THE PRESENT.

This course traces the successive transformations of Chinese life and society from the beginnings of the Ching Dynasty (1644) through the modern period, the focus of the course. In this time span, China changed from a society with strongly traditional political and social form to a revolutionary nation-state.

Full course, Semester 1.

Mr. Lestz.

182. SURVEY OF ASIAN HISTORY.

Precise title to be annouced. Full course, Semester 2.

INTERNATIONAL DEVELOPMENT

125. DEVELOPMENT PROBLEMS.

This is an introduction to the study of development. The course will consider the historical evolution of the concepts of economic growth and development; the nature of development; five alternative approaches to development ranging from conventional theories of capital intensive investment to more radical theories of labor intensive investments; and for a conclusion, an assessment of development policies of governmental and non-governmental organizations. Historical, geographic, and political considerations will receive special attention. (See also Geography 125., and Government 125.)

Full course, Semester 1.

Mr. Ford, Mr. Berry.

283. CLIMATE AND HISTORY: ANALYSIS OF THE INFLUENCE OF CLIMATE ON HISTORICAL CHANGE.

This is an inquiry into the influence which climatic patterns have exerted on historical events. The course will look primarily at Africa and the U.S. In Africa, attention focuses on the Sahel over the last eight or ten thousand years but with special focus on the last two thousand. In southern Africa, climate and life style of five different population groups are compared with a similar environmental setting in the great plains of North America. Special attention is given to the Turner hypothesis for institutional development on the frontier. (See also ID 283.)
Full course, Semester 2.

284. CLIMATIC HISTORY AND DEVELOPMENT.

Not offered, 1978-79.

The course consists of a series of case studies for development projects in diversified climate settings. Students will select two or three climatic world regions in Asia, Africa, or Latin America and consider different development strategies in agriculture, health, light industry, or resettlement in each of these regions. The goal of the course is to determine appropriate development strategies for varied cultural and physical settings.

Full course.

Mr. Ford.

285. PROSEMINAR: THE MULTINATIONAL CORPORATION.

This course considers the growth and development of the multinational corporation from the late nineteenth century through the 1970's. The course examines why multinationals expand abroad, how they affect the host country, and in what manner they influence U.S. foreign policy. Emphasis on case studies from the

oil, mineral, and utilities industries. Prerequisite: permission of

Full course, Semester 2.

GLOBAL HISTORY COURSES

190. SURVEY OF 20TH-CENTURY GLOBAL HISTORY.

Starting with a brief assessment of the world in 1900, the course offers historical background to the contemporary global order. It is designed to help students view their lives within a world-wide perspective in terms of politics, economics, and culture as well as the human costs and individual resilience shown during the great crises of this century. Students write essays every other week, giving their reaction to the assigned reading and class discussion. Full course, Semester 2.

Mr. Von Laue, Mr. Borg.

256. THE EXPANSION OF EUROPE, 1415 TO THE PRESENT.

Not offered, 1978-79.

Mr. Little.

This course deals with the universalization of European culture at three key stages: (1) the fifteenth and sixteenth centuries, (2) the late nineteenth century to 1914, and (3) from the Second World War to the present. A central theme is the nature of comparison between Europeans and non-Europeans.

Full course.

Mr. Von Laue.

287. AN INTRODUCTION TO MARXISM. Not offered, 1978-79. This introduction is not only for students of history and the social sciences generally, but also for those planning to take more specialized courses on Marxism subsequently. The course covers the main aspects of Marx's life and thought as well as of Marxism

in the day and after. Three short papers.

Full course.

Mr. Von Laue.

288. MARXISM AND REVOLUTION: RUSSIA AND CHINA.

Not offered, 1978-79.

This course traces the evolution of Marxism in Russia and China, with special attention to the interaction between Marxist thought and indigenous conditions in these countries. Readings are mostly from Lenin and Mao. A prior acquaintance with Marxism and the history of Russia and China is desirable but not required. Three short papers.

Full course. Mr. Von Laue.

289. THE CONTEMPORARY AGE IN GLOBAL PERSPECTIVE.

Not offered, 1978-79.

This course attempts to outline the major conditions affecting the individual at the end of the twentieth century. It examines salient features of the external framework of human existence in terms of politics, economics, the relations between rich and poor in the world, technology, ecology, major natural resources, and the role of the individual in national and global society, with a view to helping students plan their lives and expectations more realistically. Written work consists of a diary. See course description under "Track I."

Mr. Von Laue.

290. THE FUTURE.

Not offered, 1978-79. This course extends historical time-perspective forward, sampling the growing literature of futurology, examining methods of forecasting, projection, scenario-building, and construction of alternative futures, as well as discussing actual forecasts for the future. The purpose of this course is to make students more aware of the inescapable burden of the future and more realistic about the possibility of effecting a better future. Short written exercises. Full course.

Mr. Von Laue.

DEPARTMENTAL HONORS

292. HONORS PROSEMINAR.

This course attempts to teach students how to write analytical and synthetic research papers and to write them well. The course also introduces students to problems of studying history by learning about the aspirations, advantages, and disadvantages of "historicism." Open to sophomores and juniors, to majors and non-majors, and to honors and non-honors students.

Full course, Semester 2.

Mr. Borg, Mr. Lucas.

293. HONORS THESIS RESEARCH.

Honors students receive up to two credits for thesis research.

Honors students preparing for the comprehensive exam receive credit for their reading under History 297.

Variable credit.

SPECIAL PROJECTS

295. WRITING FOR UPPER DIVISION STUDENTS IN THE SOCIAL SCIENCES.

This course is designed for students planning careers in which good writing counts. It attempts to inculcate awareness of style generally as well as of its ingredients, including precision of thought. A course deliberately made difficult, demanding unusual mental concentration. Weekly essays plus reading.

Full course, Semester 1.

Mr. Von Laue.

296. PRACTICUM IN THE TEACHING OF HISTORY.

Variable credit.

Mr. Ford.

297. RESEARCH PROJECTS.

Undergraduates, normally juniors and seniors, may construct an independent research course with an instructor of their choosing. Prerequisite: permission of instructor.

Variable credit.

Staff.

298. DIRECTED READINGS.

Undergraduates, normally juniors and seniors, may design a directed readings course to consist of a sequence of structured readings on a given topic to be approved and directly supervised by an instructor. Prerequisite: permission of instructor.

Variable credit. Staff.

299.9. INTERNSHIP.

The student who undertakes an interdisciplinary internship for more than two credits may receive up to two credits in history and the remainder in another department. Prerequisite: permission of instructor and of chairman.

Variable credit.

Staff.

GRADUATE COURSES

301. STUDIES IN 18TH-CENTURY AMERICAN HISTORY.

Independent studies.

Variable credit.

Mr. Billias.

304. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815.

This course take a historiographical approach to the literature in American history from the beginning of the colonial period until the end of America's second War of Independence.

Full course, Semester 1.

Mr. Billias.

310. COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY SINCE 1815.

Students examine major topics and themes, with emphasis on historiographical essays.

Full course, Semester 2.

Mr. Formisano.

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312. STUDIES IN AMERICAN SOCIAL HISTORY.

Independent studies.

Variable credit. Ms. Hareven.

313, RESEARCHERS' SEMINAR: AMERICAN

Not offered, 1978-79.

URBAN HISTORY. Students carry out original research and write papers on different topics pertaining to urbanization, the organization of urban life, and people's adaptation to new social conditions in American urban society.

Full course. Ms. Hareven.

317. RESEARCHERS' SEMINAR: THE FAMILY IN HISTORICAL PERSPECTIVE.

See course description under History 217.

Variable credit, Semester 1.

Ms. Hareven.

330. RESEARCHERS' SEMINAR: RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN REPUBLIC.

This seminar deals with the origins of American political parties, the debate regarding the early party system, and a study of the process of nation building.

Full course, Semester 2. Mr. Billias.

331. RESEARCHERS' SEMINAR: AMERICAN POLITICAL HISTORY.

Not offered, 1978-79. This is a seminar in U.S. political history: methods and topics. Concentration is on topics selected by instructor and students with special attention to interdisciplinary methods and most recent works in political history.

Full course.

Mr. Formisano or Mr. Billias.

332. RESEARCHERS' SEMINAR: 19TH-CENTURY PARTIES AND SOCIAL MOVEMENTS.

This seminar concentrates on the most important populist movements in the U.S. in the nineteenth century — especially antimasonry, know-nothingism (nativism and anti-Catholicism), antislavery-abolition, and agrarian populism — and connects them to major political parties especially in periods of crisis and realignment. Reading in secondary sources is followed by research in primary sources and the writing of original research papers.

Full course. Semester 1.

Mr. Formisano.

335. STUDIES IN 19TH-CENTURY U.S. HISTORY.

Independent studies.

Variable credit. Mr. Formisano, Ms. Hareven.

336. STUDIES IN AMERICAN CONSTITUTIONAL HISTORY.

Independent studies.

Variable credit. Mr. Campbell.

337. STUDIES IN DIPLOMATIC HISTORY.

Independent studies.

Variable credit.

Mr. Little.

341. STUDIES IN AMERICAN THOUGHT AND CULTURE.

Independent studies.

Mr. Koelsch. Variable credit.

342. STUDIES IN AMERICAN INTELLECTUAL HISTORY.

Independent studies. (See also Philosophy 335.) Mr. Beck. Variable credit.

343. AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES.

This seminar, given at the AAS (about two miles from Clark), affords students an opportunity to do original research in the Society's unique holdings. Students should apply in the spring through Mr. Formisano or Mr. Billias. This year's seminar, given by Prof. Nissenbaum of the University of Massachusetts, will center

around the theme "Literature and Society in Jacksonian America." Full course, Semester 1.

344. STUDIES IN RECENT AMERICAN HISTORY.

Independent studies.

Variable credit. Mr. Little.

350. STUDIES IN EARLY MODERN EUROPEAN HISTORY.

Independent studies

Variable credit. Mr. Lucas.

351. STUDIES IN EUROPEAN INTELLECTUAL HISTORY.

Independent studies.

Variable credit. Mr. Lucas.

352. STUDIES IN MODERN EUROPEAN HISTORY.

Independent studies.

Variable credit Mr. Borg, Mr. Von Laue.

359. STUDIES IN RUSSIAN HISTORY.

Independent studies.

Variable credit. Mr. Von Laue.

380. STUDIES IN AFRICAN HISTORY.

Independent studies.

Variable credit. Mr. Ford, Mr. Von Laue.

383. STUDIES IN CHINESE HISTORY.

Independent studies.

Variable credit.

395. PRACTICUM IN THE TEACHING OF HISTORY.

Mr. Ford, Staff. Variable credit.

399. GRADUATE READINGS.

Variable credit.

Staff.

Staff.

400. THESIS RESEARCH.

Variable credit.

Staff.

Humanistic Studies

PROGRAM COMMITTEE

Marvin D'Lugo, Ph.D., Associate Professor of Spanish, Chairman Charles Blinderman, Ph.D., Professor of English Martyn Bowden, Ph.D., Professor of Geography Bernard Kaplan, Ph.D., Professor of Psychology Walter Schatzberg, Ph.D., Professor of German, Foreign Languages and Literatures Department Chairman

Stanley Sultan, Ph.D., Professor of English Albert Anderson, Ph.D., Associate Professor of Philosophy Gerald Castonguay, Ph.D., Associate Professor of Music Ronald Formisano, Ph.D., Associate Professor of History Wesley Fuller, M. Mu., Associate Professor of Philosophy Michael K. Spingler, Ph.D., Associate Professor of French Walter Wright, Ph.D., Associate Professor of Philosophy John Conron, Ph.D., Assistant Professor of English Dorothy Kaufmann-McCall, Ph.D., Assistant Professor of French Gale Nigrosh, M.A., Lecturer in French

PROGRAM RATIONALE

The Program of Humanistic Studies (PHS) is an interdisciplinary program supported through a grant of the National Endowment for the Humanities. Although the program does not offer an undergraduate major, each semester it provides undergraduates a series of integrated seminar courses, or

"clusters," each centered around a different theme and exploring the ways in which that theme is approached by investigators from a variety of humanities, and social sciences fields. The objective of the cluster approach to interdisciplinary learning is to combine for both the student and the faculty member the strengths of both a disciplinary grounding in a subject with the benefits of an interdisciplinary focus on themes and methods.

The Humanistic education is concerned with the assumptions and methods which the human mind has established in certain areas of knowledge, with emphasis on the cultural and historical contexts which give rise to that knowledge: an appreciation for the significance of that subject in its contemporary as well as historical dimensions. In short, the learning experience broadly defined, not as an isolated approach to a narrow kind of knowledge, but rather as modes of learning which continually stress the tradition and contemporary context of knowledge.

Each cluster in PHS consists of a group of three or four course components in different departments and/or disciplines taught concurrently on aspects of a single theme. Although individualized in terms of the particular methodologies used in each course, all courses in a cluster share a number of common features:

- 1. General theme;
- A number of shared readings in all courses within a given cluster:
- Some joint-sessions in which all courses in the cluster will meet to discuss the common theme or work in a common activity;
- A common number of writing assignments, the evaluation of which will be shared in some measure by all faculty participating in the cluster.

All cluster courses are listed in the individual departments and may be used to fulfill major requirements in appropriate departmental majors.

COURSES

Full course.

AMERICAN SPACE AND ITS EUROPEAN ROOTS.

Not offered, 1978-79. This course is an examination of the European images of the known world at the time of the discovery of America, and how these early notions affected later thought about America in the areas of geography, philosophy, and the arts. Among the topics which will be examined in all three sections of the cluster are: the vital role which our general ideas of space play in the formation of our cultural perceptions; the manner in which cultural heritage the European historical experience — has shaped and determined the nature of American culture through geographical and architectural values; the cross-cultural study of certain normative ideas relating to American space and culture and transmitted through literature, film, and other artistic forms. Specific models will be examined in a variety of contexts and from the differing disciplinary perspectives: the island, the city, the garden, the frontier, the general contrast between primitive, and civilized spaces. The course is listed for credit as Comparative Literature 162., Philosophy 162., and Geography 172

AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE.

This is a cluster course conducted primarily as a senior seminar in which comparative literature, geography, and philosophy will provide integrated perspectives on the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical, geographic, economic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City. The course is listed for credit as Comparative Literature 272., Geography 272., Philosophy 272., and Spanish 272.

Full course, Semester 1.

Mr. Bowden, Mr. D'Lugo, Mr. Anderson.

Mr. Anderson, Mr. Bowden, Mr. D'Lugo.

ROMANTICISM IN THOUGHT, LITERATURE AND THE ARTS.

This is a multi-disciplinary program which will approach Romanticism from the perspectives of philosophy, literature, music and the visual arts. The course is listed for credit as Comparative Literature 182., English 182., Music 182., and Philosophy 182.

Full course, Semester 1.

Mr. Schatzberg, Mr. Blinderman, Mr. Overvold, Mr. Castonguay.

SELF, SYMBOL AND VALUE.

This is an interdisciplinary cluster course exploring the Self and its transformations, from the perspectives of philosophy, literature, and the social sciences. This course shall examine such issues as: the attainment and dissolution of personal identity; the role of language in the formation of the self; selfhood and sexuality; the self in relation to fantasy and imagination; and the self and its social context. The teaching-learning process would employ a variety of formats, ranging from joint sessions to intensive small-group discussions. Students who enroll should have completed some formal work in at least two of the three disciplines. The course is listed for credit as Comparative Literature 258., Philosophy 258., and Psychology 258.

Full course, Semester 2.

Mr. Kaplan, Ms. Kaufmann-McCall, Mr. Wright.

AMERICAN CULTURE AND SOCIETY, 1820-1860.

This is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention will be paid to the cultural geography, the arts (primarily literature and painting), and to some significant political, and social issues of the period. Some of the germinal works in American Studies (Leo Marx's Machine in the Garden and R.W.B. Lewis' The American Adam, for example) will be read to provide context for the study of representative cultural and social expressions of the period. These expressions will include wilderness, pastoral, small town, and urban landscape; landscape and portraiture in painting; writings of Emerson, Hawthorne, and Melville; and Jacksonian thought and politics. This is included under the American Studies concentration. The course is listed for credit as English 240., Geography 240., and History 240.

Full course, Semester 2.

Mr. Conron, Mr. Formisano, Old Sturbridge Village staff.

International Development and Social Change

PARTICIPATING FACULTY

Leonard Berry, Ph.D., Program Co-Director and Professor of Geography

Richard B. Ford, Ph.D., Program Co-Director and Associate Professor of History

Cynthia Enloe, Ph.D., Professor of Government and International Relations*

Robert W. Kates, Ph.D., University Professor, Professor of Geography

Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of History

Robert C. Hsu, Ph.D., Associate Professor of Economics Douglas L. Johnson, Ph.D., Associate Professor of Geography Sharon P. Krefetz, Ph.D., Associate Professor of Government and International Relations**

Frank W. Puffer, Ph.D., Associate Professor of Economics



Harry E. Schwarz, B.C.E., Visiting Professor of Environmental Affairs, Adjunct in Geography

John Townshend, Ph.D., Visiting Assistant Professor of Geography and Affiliate in International Development

Philip O'Keefe, Ph.D., Visiting Lecturer in Geography Kirsten Johnson, Ph.D., Mellon Post Doctoral Fellow in International Development and Environmental Affairs

Ann Seidman, Ph.D., Professor of International Development (Affiliate)

Charles Hays, M.D., Associate Professor of Community and Family Medicine, U. of Massachusetts Medical School and Associate Professor of International Development (Affiliate)

- *on leave, Semester 2, 1978-79.
- ** on leave 1978-79.

PROGRAM

The Program in International Development and Social Change is a BA/MA offering combining both research and training activities.

The teaching program is designed to introduce students to the complex issues involved in international development, to introduce them to a range of research activities, as well as to prepare them for careers and participation in international fields. It will attempt to orient majors to the changing world in which we live and to the increasing role which developing societies play in the interdependencies of the world's social, economic, and political systems. The program also hopes to attract a wide range of nonmajors in one or more of the courses, seminars, or action research activities. It is also possible to work out a double major with one of the cooperating departments.

A new program in development, launched at a time of disillusionment and widespread doubt about progress in international development, it requires special explanation. It does not seek to train agricultural specialists, highway design

engineers, or sanitation system contractors. Nor does the program expect the majority of graduates to work for the established international agencies such as USAID, CARE, or the United Nations. Rather, it is assumed that graduates will acquire basic skills of economic and social analysis as well as an orientation toward development and social change. These skills and attitudes will be well suited for any number of careers in either the private or public sector which deal with developing areas of the world. The program also provides solid preparation for those who seek further training in graduate or professional schools.

To attain these skills, students should work within a combined graduate-undergraduate setting which blends the breadth of the liberal arts with the specialization of professional training. Thus, the curriculum combines existing courses, new cross-disciplinary courses, an internship, a basic research project, and an applied research activity.

The research program offers faculty, graduate students, and undergraduates opportunities to work individually and cooperatively in topics of concern related to international development and social change. Current research projects include Problems of the World's Least Developed Nations, the Continuing Problems of Drought and Development in West Africa, the Social and Economic Impact of Desertification Worldwide, and Environmental and Long-range Developmental Problems in Eastern Africa. In all this, we are concerned with the relationship between technological intervention and social change in the developing world. Associated with these collaborative research efforts are seminars, symposia, field internships, and summer activities.

The Program in International Development and Social Change expects students to:

- master basic skills including competence in a foreign language, quantitative skills, and techniques of economic and social analysis;
- attain an understanding of the development process in its political, economic, historical, and environmental aspects;

- develop an investigation/research approach to an actual problem and attempt to apply the growing body of theoretical knowledge in an internship experience;
- wrestle with the problem of hammering out a philosophy of development;
- 5) pursue a career track, selected from one of three existing options — resource management, development planning, development education, or a modified or combined form of one of these tracks

COURSES

1) Prerequisites: All students should make certain that prerequisites are completed. One prerequisite requires that students complete Issues and Perspectives and Principles of Economics (Economics 10. and 11.). If students have not done so already, they should take these courses as soon as possible. The second prerequisite is foreign language competence. Students should discuss with a faculty member the specific interests which they have for the program and on that basis, determine which language proficiency would be most helpful for them. Language proficiency can be demonstrated either through proven competence or course work equivalent. Students in consultation with their advisers may be able to develop programs that fit their particular needs.

2) Core Courses — the second category of courses offered in International Development will be core courses.

015. INTRODUCTION TO ECONOMIC GEOGRAPHY.

See Geography 015.

Full course, Semester 1.

Mr. O'Keefe.

125. DEVELOPMENT PROBLEMS.

This is an introduction to the study of development. The course will consider the historical evolution of the concepts of economic growth and development; the nature of development; five alternative approaches to development ranging from conventional theories of capital intensive investment to more radical theories of labor intensive investments; and for a conclusion, an assessment of development policies of governmental and non-governmental organizations. Historical, geographic, and political considerations will receive special attention.

Full course, Semester 1.

Mr. Ford.

150. ASSESSMENT OF SOCIAL ENVIRONMENTAL IMPACT.

This course will teach the methods to assess the social and socioeconomic impact of man-induced changes. Cases will be drawn from experience in industrialized and developing countries. Full course, Semester 1. Ms. Johnson.

200. SENIOR SEMINAR.

Required of all majors, this course will have two purposes: to reflect on the previous course work as a summation activity; and to prepare individuals for the internships upon which they will soon embark.

Full course, Semester 1.

Mr. Berry, Staff.

201. APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS.

See Environmental Affairs 201. Half course, first half, Semester 1.

Mr. Schwarz.

202. THE BIOSPHERE.

See Environmental Affairs 202. Half course, second half, Semester 1.

Mr. Erickson.

203. MAN'S PERCEPTION OF HIS ENVIRONMENT.

See Environmental Affairs 203. Half course, first half, Semester 2.

Staff.

204. ENVIRONMENTAL PLANS AND PROGRAMS.

See Environmental Affairs 204.

Half course, second half, Semester 2.

Mr. Schwarz.

206. AUTOBIOGRAPHY WORKSHOP.

This is an anthropological inquiry into the process of personal growth and social change. Required of all majors, the course allows students to examine their preconceptions; the way people perceive problems and methods of solving them.

Half course, Semester 1.

Mr. Knos.

210. ECONOMIC PLANNING.

This course will consider alternative approaches to planning in developing countries, drawing particularly on the experience of the African countries. It will focus on the use of planning to restructure the inherited pattern of resource allocation to attain more balanced, internally integrated, self-reliant economies; and consider how institutions may need to be reshaped to implement plans proposed.

Full course, Semester 1.

Ms. Seidman.

211. GEOMORPHOLOGY IN THE HUMID TROPICS.

See Geography 211.

Full course, Semester 1.

Mr. Lewis.

298. READINGS IN INTERNATIONAL DEVELOPMENT.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

299. RESEARCH IN INTERNATIONAL DEVELOPMENT.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

302. RESEARCH THESIS.

Master's degree candidates will register for two courses, called Thesis Research, while working on their master's degree research thesis.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

303. APPLIED PROJECT.

During the graduate year, degree candidates will also participate in an applied project to acquaint graduate students with the techniques of writing applied literature.

Variable credit. Semesters 1, 2, Modular Term.

304. GRADUATE SEMINAR.

During the first semester of the graduate year, a seminar entitled "Political and Institutional Change" will consider the mechanics and techniques of change within bureaucratic or institutional settings.

Variable credit, Semester 1.

Staff.

305. DIRECTED READINGS.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

306. PHILOSOPHY OF DEVELOPMENT.

During the final semester of the graduate year, each student will be required to write a brief but meaty position paper on an individual rationale for development. This is a tutorial course.

Full course, Semester 2.

Mr. Ford, Mr. Berry, Staff.

307. SEMINAR IN DISASTER PREVENTION IN DEVELOPING COUNTRIES.

See Geography 307.

Full course, Semester 1.

Mr. O'Keefe.

In addition to the several formal courses, the International Development and Social Change Program sponsors a number of seminars, symposia, action projects, and student exchanges. Participation in these several activities is encouraged for majors.

Career Tracks with Suggested Courses

Majors in International Development and Social Change will take six courses in a particular field of specialization. In most cases, students will follow the pattern set out in one of three established tracks: development planning; development education; or public administration. In other cases, a student may design a course sequence, subject to approval by an appropriate faculty member.

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which either combines one of the above three tracks or creates a new focus. In every case, the area of concentration should be looked upon as an opportunity for students to link their interest in development with a focus in a specialized field.

For Resource Planning, choose from: Environmental Affairs 201., EA 202., Geog. 150., Geog. 157., Geog. 257., Geog. 268., Geog. 307.

For Economic Planning, choose from: Econ. 115., Econ. 176. For Political Planning, choose from: Geog. 130., Geog. 230., Geog. 261., Geog. 270., Gov. 275., Gov. 291.

For Development Education, choose from: Geog. 205.1., Geog. 205.2., Geog. 206., Ed. 217., History 285., Ed. 252., Ed. 278.

Judaic Studies

AFFILIATE FACULTY IN JUDAIC STUDIES

Elana Ashley, Ph.D., Lecturer in Hebrew Language and Literature Stanley M. Davids, M.H.L., Lecturer in Biblical Literature Emanuel S. Goldsmith, Ph.D., Associate Professor of Judaic Studies (Affiliate)

Edward S. Goldstein, Ph.D., Lecturer in History and Judaic Studies Walter Schatzberg, Ph.D., Coordinator for Judaic Studies

The following courses in Judaic Studies are offered in the departments of History and Foreign Languages and Literatures. For course descriptions check the course listings under those departments. For further information concerning the Judaic Studies Program and to discuss the possibility of integrating Judaic Studies courses within various departmental majors, contact Mr. Schatzberg.

HEBREW LANGUAGE AND LITERATURE COURSES

(See Department of Foreign Languages and Literatures.)

11. ELEMENTARY HEBREW.

(See course description under Hebrew.)

Full course, Semesters 1, 2.

12. INTERMEDIATE HEBREW.

(See course description under Hebrew.)

Full course. Semesters 1.2.

Ms. Ashley.

Ms. Ashlev.

130. ADVANCED HEBREW.

(See course description under Hebrew.)

Full course, Semesters 1, 2.

Ms. Ashley.

HEBREW LITERATURE COURSES TAUGHT IN ENGLISH

(See Department of Foreign Languages and Literatures.)

121. WISDOM LITERATURE.

(See course description under Hebrew.)

Full course, Semester 2.

Mr. Davids.

150. THE CULTURE OF EAST EUROPEAN JEWRY.

(See course description under Hebrew.)

Full course, Semester 2.

Mr. Goldsmith.

160. MODERN JEWISH THOUGHT.

(See course description under Hebrew.)

Full course. Semester 1.

Mr. Goldsmith.

HISTORY

276. MODERN JEWISH EUROPEAN AND SEPHARDIC HISTORY.

(See course description under History.) Full course, Semester 1.

Mr. Goldstein.

277. ZIONISM, 1897-1948.

(See course description under History.) Full course, Semester 2.

Mr. Goldstein.

Linguistics

COURSES

88. DIRECTED READINGS.

Variable credit.

Staff.

90. SPECIAL PROJECTS.

Variable credit.

Staff.

114. GENERAL PHONETICS AND PHONEMICS.

Not offered, 1978-79. Phonetics is the scientific study of all the physical aspects of speech. Phonemics treats of the systematic nature of the use of the physical means to form the communication systems we call languages. This course is concerned with language in general, so as to provide the theoretical framework necessary for describing the pronunciation system of any language. It includes the fundamentals of articulatory and acoustic phonetics, and it

proceeds to general structural phonemics and some of its modifications and the theoretical questions raised by them.

Prerequisite: permission of instructor.

This course, or its equivalent, is a prerequisite to Linguistics 260. (Linguistics and Language Learning). The instructor is

prepared to suggest alternative ways of meeting the prerequisite, however. Offered in alternate years.

Staff.

115. MAN AND LANGUAGE.

Half course.

Not offered, 1978-79.

This is an introduction to the analysis of nature and function of human language and its role in the life of individuals and societies. The approach is interdisciplinary, with attention to the points of view of philology, contemporary linguistics, anthropology, psychology, and philosophy. The lectures focus on such questions as: What is language? What is the relation between language and thought? To what extent does our language determine how we perceive the world? Why and how do languages change? What other functions does language serve besides communication? Why do we not have a world language? How have linguists achieved an objective, scientific analysis of linguistic systems? What are the limitations of such a science?

The course is designed for the general student who wishes to know more about the nature of the uniquely and universally human institution of language, and for the student or teacher of English or foreign language who is interested in the light which linguistic science can throw upon the relations between his or her field and other areas of life and knowledge. Prerequisite: permission of instructor.

Full course.

Staff.

192. LANGUAGE IN SOCIAL CONTEXT.

This is a look at language from the perspective of sociolinguistics. The course will view both spoken discourse as situated action whose meaning both reflects and creates the social context in which it takes place, whether in the everyday world or the world of the literary text. Starting with the notion of speech communities, the class will consider how verbal performance varies as individuals and groups assume different roles in different situations. Topics will include ritualized speech events, linguistic subcultures, male-female language, code-switching, bilingualism, and functions of language in the classroom. Discussion and reading will be supplemented by several short observational tasks. The class is limited to 20 students.

Full course, Semester 2.

Ms. Nigrosh.

260. LINGUISTICS AND LANGUAGE LEARNING.

Not offered, 1978-79.

This is an exploration of various fields of linguistic study from the point of view of their relevance to foreign language learning. Intended to meet the needs of two classes of students: (1) prospective foreign language teachers who already have advanced mastery of their foreign language and (2) other students with a more general interest in the nature of language, whose primary orientation may be toward related problems in, for example, psycholinguistics or sociolinguistics.

Approaching language as behavior and as system, the course directs attention to the levels ranging from the culture system to the system of the language as a whole and finally to its subsystems: lexical, grammatical, and phonological.

Offered in alternate years. Prerequisites: Linguistics 114., which may be taken either prior to or concurrently with this course, and for which substitutes may be available if the instructor is consulted well in advance; permission of instructor. See also Education 260.

Full course. Staff.

285. SEMANTICS.

This course studies meaning. It deals with and classifies the changes in the meanings of words and phrases, and it analyzes simile and metaphor. It also deals with the parametric organization of the semantic system. Some attention is paid to the relation between thought and language. Offered at the discretion of the Department of English. Prerequisite: permission of instructor. Full course, Semester 1.

287. INTRODUCTION TO LINGUISTICS.

This course is devoted to the theory and methodology of descriptive linguistics. It deals with the nature and function of language, the relation between speech and writing, phonology, morphology, syntax, lexicology, the sociocultural setting of language, the contact of linguistic systems, and the problems of "correctness." Emphasis is placed upon the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor.

Full course. Semester 1. Mr. Macris.

288. COMPARATIVE AND HISTORICAL LINGUISTICS.

Not offered, 1978-79.

This course examines the theory and methodology of comparative and historical linguistics. It focuses on linguistic geography, linguistic borrowing, the causes of linguistic change, the comparative method and reconstruction, and problems in analyzing languages with and without a literary tradition. Emphasis is placed on the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor.

Full course. Mr. Macris.

388. GRADUATE DIRECTED READINGS.

Variable credit.

Staff.

The following courses are recommended to students interested in Linguistics:

Education 288. SOCIOLINGUISTICS. Not offered, 1978-79. Refer to course description under Education 288.

Full course. Staff.

Education 336. LANGUAGE AND COGNITIVE DEVELOPMENT.

Not offered, 1978-79.

Refer to course description under Education 336.
Full course. Staf

Education 338. BILINGUAL EDUCATION. Not offered, 1978-79.

Refer to course description under Education 338.
Full course. Staff.

English 280. HISTORY OF THE ENGLISH LANGUAGE.

Refer to course description under English 280.
Full course, Semester 2.

English 282. OLD ENGLISH. Not offered, 1978-79.

Refer to course description under English 282.
Full course.
Mr. Macris.

English 284. SEMINAR: MODERN AMERICAN ENGLISH.

Refer to course description under English 284.
Full course, Semester 2.

Mr. Macris.

English 286. SEMINAR: LINGUISTIC APPROACHES
Not offered, 1978-79.

TOLITERATURE. N Refer to course description under English 286.

Full course. Mr. Macris.

English 295. TEACHING ENGLISH AS A SECOND LANGUAGE.

Refer to course description under English 295.
Full course, Semester 2.

Mr. Macris.

Philosophy 185. PHILOSOPHY OF LANGUAGE.

Refer to course description under Philosophy 185. Full course.

Mr. Derr.

Mr. Macris.

Management

DEPARTMENT FACULTY

W. Warner Burke, Ph.D., Professor of Management, Department Chairman

Harold T. Moody, Ph.D., Associate Professor of Economics and Management

William Naumes, Ph.D., Associate Professor of Management Mark S. Plovnick, Ph.D., Assistant Professor of Management Don M. Shakow, Ph.D., Assistant Professor of Economics Daniel R. Kilty, Ph.D., Senior Lecturer in Management David F. Votaw, Ph.D., Senior Lecturer in Management Hava Kane, Instructor

Margaret Naumes, Ph.D., Assistant Professor of Management (Affiliate)

UNDERGRADUATE PROGRAM

The Department offers undergraduate courses in Management which may serve as (a) electives, (b) part of an expanded major in another area or (c) required courses for the BA/MBA program, and a graduate program leading to the Master of Business Administration degree. The undergraduate options and the graduate degree program are both small and flexible, designed to allow the participation of students in a wide variety of educational experiences.

Undergraduate courses emphasize the basic concepts and techniques of management, and may serve to (1) prepare a student for entrance into an M.B.A. program upon graduation, (2) supplement the liberal arts education at Clark, and (3) meet the requirements of the five year BAVMBA program. Thus, these courses do not constitute a major with the University but rather serve either as electives, as a part of other major programs or as a preprofessional program leading toward a Master's of Business Administration (MBA) in Management.

UNDERGRADUATE/GRADUATE PROGRAM

The Department of Management offers undergraduate students the option of participating in a five-year program while at Clark. In this program they may earn a B.A. in their major, as well

as the M.B.A. degree. The major features of the program are:

- An undergraduate major in any of the liberal arts disciplines at the University.
- 2) A series of undergraduate courses in management which can be used as electives or as preparatory courses for the graduate M.B.A. program.
- A working internship off campus to bridge theory and practice, normally during the junior year.
- Graduate courses, beginning in the senior year, which can lead to the M.B.A. degree, and which help prepare students for management positions in business, government, and nonprofit organizations.

The five-year program is designed to meet several needs expressed by students today. First, it provides a series of undergraduate courses for students who would like to know something about the field of management, whether they intend to pursue such a career or are interested in better understanding the society in which they live. Second, these same courses can serve as preparatory courses for many M.B.A. programs across the country, including the Clark University M.B.A. program. Third, an internship provides needed field experience before a student enters graduate school. Fourth, the total time required by many students who want to pursue both a liberal arts major and a graduate M.B.A. degree can be reduced to a minimum.

The program is designed to provide education which will give both the preparation for immediate employment and the potential for growth toward important positions in organizations. Ultimately, the program is an attempt to bridge the gap between liberal arts education and practical applied learning.

The Program

The program is a carefully designed sequence of educational and work experience which involves each student from the freshman year through the graduate year. Although it is possible to begin the program as a sophomore or junior, the demands of the program are such that only those who begin early in their college career may be able to complete all requirements within five years. Others may take longer to earn both the B.A. and the M.B.A. degrees in the program.

Briefly, the program involves five sets of learning experiences:

- A sequence of four undergraduate courses in the freshman and sophomore years preparing students for an off-campus internabin
- Related courses in other departments in economics, statistics, computer programming, psychology, and mathematics which contain the tools needed for the graduate courses in management.
- An off-campus internship lasting six months, earning four credits, where work experience can be gained.
- 4) Graduate management courses taken in the senior year.
- The graduate program leading toward either a major applied research project or two research papers in two different fields.

Advising of Students and Entrance into the Program

The department expects to be closely involved in the advising of each student who is interested in the five-year program. Since students will be involved in their own majors during their undergraduate years, the required management courses, as well as the necessary related courses in other departments, must be closely controlled so that students will be able to complete both the major and the M.B.A. within a five-year period. Students must have the signature of an adviser from the Department of Management to participate in an internship and when applying to the Graduate School for admission to the M.B.A. program.

Entrance into the program occurs at two levels. While enrolled in MGMT. 208., Cases in Management, during the junior year, students will make an application to the Department of Management for participation in an internship. Normally, all students who are accepted for the internship will complete it prior to their senior year, so that this decision includes a commitment by both the student and the department. After returning from the internship students may begin taking graduate courses in the

M.B.A. program during their senior year if all prerequisites have been satisfied. During the last semester of the senior year, students may apply for admission to the Graduate School. If the application is approved, students will be conditionally accepted upon their successful completion of the B.A. degree. In this way, the department accepts students into the M.B.A. program while they are still in the senior year.

To summarize: There are two decision points, one during the junior year which involves application for the internship, and the second during the senior year which is the application to the Graduate School.

The Internship

Each internship is a carefully matched experience between a student and a work situation in the management community. Internships will normally occur during the junior year, and will typically involve six months of work experience (an academic semester and a summer). The internship is counted as an academic experience for one full semester, or four credits.

The department arranges job placement and oversees students while on the job. Students are provided introductory material to their internships in Management 208., and are able to share the experiences of students currently involved in internships. During Management 208., arrangements are made for each internship. Finally, while in the internship, student interns are also involved in seminars within the department to enrich their learning experience.

For students who are interested in international business and management, an option for the internship is work abroad. Prerequisite for participation in this option are two years' study of another language. The internship is coordinated with the University's Department of Foreign Languages and Literatures.

A written project based on the student's experience in the internship is required for the successful completion of the academic credit. This paper, as well as the work experience itself, is under the direction of departmental faculty members.

Summary of Requirements:

- 1) Eight undergraduate courses in Management 100., 101., 201., 208., and an internship (4 credits):
- Six related courses Economics 10., 11., one Statistics, one Computer, one writing, and one Psychology;
- Thirteen M.B.A. courses three or four as an undergraduate following the internship, nine or 10 as a graduate including electives and thesis/directed research.
- A major applied research project or two applied research projects.

If students wish to concentrate heavily in one area, the major project should be chosen (2 credits). If students wish to cover more areas of concentration, two papers are written in each of two different areas (1 credit each).

THE GRADUATE PROGRAM

The M.B.A. program has unique features which should be evaluated by prospective students in light of their interests and preferences. First, only the most important topics in the study of management are included: marketing, finance, operations management, and organization behavior. These topics are applied to a wide variety of organizations. Second, to complete the graduate program, students must create a part of their program in conjunction with the faculty, administration, and other students. Third, the department is not solely committed to the study of business organizations. The faculty believes the study of management applies to all organizations, non-profit as well as profit. Consequently, the theoretical core of each field of study is emphasized, and descriptive institutional material is used to particularize the core. The mix of students in the program including current and future managers of educational, health, religious, government, and business organizations, forces the faculty to focus on the universal principles of managing. Fourth, graduate courses and seminars are scheduled in the late

afternoons and evenings. These hours do not mean it is an evening program for part-time students, with a separate program in the daytime for full-time students. It is one program, with both part and full-time students attending the same courses, seminars, and special projects. This aspect of the program contributes a unique atmosphere in which students learn from each other's wealth of different practical and academic experience.

A graduate program of 16 full courses (16 credits) is required (See departmental brochure - Management: The M.B.A. Degree at Clark University).

COURSES

100. SURVEY OF MANAGEMENT.

This is a one semester course which surveys management theories and practices. It examines the functions of management, such as marketing, finance, operations, and information systems, and it deals in the human side of management such as personnel work group formation, and organization development.

Full course, Semester 1.

Ms. Naumes.

121.

See Economics 121.
Full course, Semesters 1, 2.

Mr. Nicholson.

122. CORPORATE FINANCE AND INVESTMENT.

See Economics 122. Full course, Semester 2.

Mr. Nicholson.

201. MANAGERIAL ACCOUNTING AND FINANCE.

Not offered, 1978-79.

Elements of generally accepted accounting procedures are presented for several major types of institutions, such as business, government, educational, and health. The accounts are examined as a tool for managerial decision-making. Prerequisite: MGMT 100. Full course.

208. CASES IN MANAGEMENT.

This one-semester course provides an overview of management decision-making which interrelates all of the functional and behavioral areas, using a case approach. While in this course, students will meet with current interns to discuss their experiences and learning processes in work environments. Finally, students consider, evaluate, and select an internship in this course, if desired. This course is normally required prior to taking an internship. Prerequisites: MGMT 100., MGMT. 201.

Full course, Semester 1.

Mr. Naumes.

225. HUMAN RESOURCE MANAGEMENT.

This course will cover the general areas of human resource management to include job design recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO, OSHA requirements, human resource planning, and organization development. Prerequisite: MGMT. 100.

Full course, Semester 2. Staff.

280. CORPORATE SOCIAL RESPONSIBILITY AND ETHICS.

Managers must understand their environment to make effective decisions. This course focuses on the interaction between the manager and societal forces. Political, social, economic and legal issues will all be considered. The role of value and ethics in evaluating these environmental forces will be analyzed. The primary method of instruction will involve the use of cases. Papers and group presentations will be required. The course will integrate analytical skills relating to the environment that were developed in the basic and core courses. Prerequisite: MGMT 100.

Full course, Semester 2.

290. INTERNSHIP IN MANAGEMENT.

Students participate in an off-campus working internship for approximately six months, usually one semester and a summer.

While on the internship, students will meet periodically in the internship seminar, meet with students in MGMT 208., and complete the required research or analytic paper.

Four course credits, Semester 2.

Mr. Plovnick.

299.9. INTERNSHIP.

Variable credit, Semesters 1, 2.

Mr. Plovnick.

310. ORGANIZATION BEHAVIOR.

This course is designed to give students an opportunity to experience and investigate the relevancy to management of a series of topics whose bases can be found in psychology, social psychology, and sociology. In general, the course explores the interaction between individuals and the systems in which they live and work. It attempts to give insight into the impact on people of their own individual characteristics, and of their personal interactions, group situations, and organization structures. Prerequisite: MGMT 100; seniors only.

Full course, Semester 2.

Mr. Plovnick.

330. MARKETING MANAGEMENT.

This course surveys the role of marketing in business and in society, focusing on specific marketing activities. Topics include the study of consumer behavior, market segments, and product development and policy, pricing, distribution, advertising, and sales management. The course combines background material with case analysis to supply experience in weighing all marketing factors in managerial situations. Prerequisites: MGMT 100., ECON 10., ECON 11., Computer Science 101., a statistics course; seniors only.

Full course, Semester 1.

Staff

The following course is recommended to students interested in the management program:

126. PUBLIC POLICY TOWARD BUSINESS.

See Economics 126. Full course, Semester 2.

Mr. Nicholson.

Mathematics

DEPARTMENT FACULTY

Robert W. Kilmoyer, Jr., Ph.D., Associate Professor of Mathematics, Department Chairperson

John F. Kennison, Ph.D., Professor of Mathematics
Edward Cline, Ph.D., Associate Professor of Mathematics*
Stanley J. Poreda, Ph.D., Associate Professor of Mathematics
Bhama Srinivasan, Ph.D., Associate Professor of Mathematics**
John S. Stubbe, Ph.D., Associate Professor of Mathematics
Daya-Nand Verma, Ph.D., Visiting Professor of Mathematics
Mayer Humi, Ph.D., Associate Professor of Applied Mathematics
(Affiliate)

James Perry, Ph.D., Assistant Professor of Computer Science (Affiliate)

Norman Sondak, D. Eng., Professor of Mathematics (Affiliate)

- *On Leave 1978-79
- **On Leave Semester 1, 1978-79

UNDERGRADUATE PROGRAM

The department offers several courses of a general nature which may fulfill the needs of students at all levels who are interested in mathematics either as a discipline in itself or as a foundation for further study in other disciplines.

A variety of elementary mathematical needs can be met by means of the Math Clinic and Tutorial 10. Students work at their

own pace and choose a program suited to their needs. The clinic may be taken as a single- or double-strength course in either the first or second semester. Math 11, may be used as a preparation for calculus and may be taken independently of Math 10

Calculus (Math. 12.) is normally open to freshmen. However, students with a weak background are advised to take Math. 10., or Math. 11. first. A placement test will be given during orientation week and other diagnostic tests are available for students who are uncertain about which course to take. The placement test is available at the Mathematics Office and is required of all students who wish to take a mathematics course at or beyond the level of Math. 12. It is possible to omit Math. 12., and begin with Math. 13., Intermediate Calculus, if sufficient achievement is shown on the advanced placement test given in high school. If this is done, the student automatically receives credit for Math 12. A calculus course is strongly advised for all students in the sciences and for those who are seriously interested in mathematics.

Students who need a basic course in computer programming might take Math. 118., which could be followed by Math. 119., or Math. 120. Linear Algebra has many applications in the sciences and the social sciences. Math. 113. is an introduction to this subject, while Math. 115. is a follow up containing advanced topics. Students who wish to experience some of the beauty of mathematical reasoning at an elementary level might take Math. 113., 124., 125., or 140

The Major in Mathematics

The prospective major is urged to visit the department and to discuss fully the different approaches to the major, which the department has made available. There are programs in pure mathematics, actuarial science, mathematics/computer science. mathematics/education, and mathematics/management. The objectives and requirements for these programs are outlined below.

Options Available within the Department:

PURE MATHEMATICS APPLIED MATHEMATICS **ACTUARIAL SCIENCE** MATHEMATICS/MANAGEMENT MATHEMATICS/COMPUTER SCIENCE

Although the following descriptions of each option are brief, we hope they indicate the nature of the program involved. We encourage students to call on the department for additional information.

PURE MATHEMATICS: The pure mathematics major at Clark is designed for two groups of students. The first includes the liberal arts student interested in the broad spectrum of mathematical thought and not wishing to limit himself/herself to the more well-defined vocational objectives of the other majors Such a student will find sufficient flexibility in the program to meet his/her needs. The second group consists of those students planning graduate work in mathematics.

The mathematics requirements for this major are 10 semester courses including Mathematics 12. (or the equivalent), 13., 113., and two semesters of a 200-level mathematics course (usually 214, or 215.). It is further expected that each major will have a culminating mathematical experience serving to give direction to his/her studies. This requirement will normally be satisfied by an advanced course; either a reading course or an advanced undergraduate course (making a total of three semesters of 200-level courses) or a graduate course Alternatively, the requirement may be met by an honors project, work study, interdepartmental readings, or other such experiences upon departmental approval, which should be obtained before the senior year. For the student planning to enter graduate school, the department strongly recommends that both the 214. and 215. sequences and at least one graduate course be taken.

The pure mathematics major has a science minor requirement. The objective is that the student be involved in a science to a sufficient depth to ensure that some of the uses of mathematics are illustrated. Each student will take four semester courses in one of the science departments, at least one of which

uses mathematics heavily. Introductory courses which are designed for non-majors will not be counted towards the minor. Ordinarily, minors from chemistry, physics, and Science, Technology and Society are acceptable without approval. Certain minors from economics, geography, music, philosophy (related to the study of mathematical truth), psychology, and sociology are acceptable with departmental approval.

APPLIED MATHEMATICS: The applied mathematics major is designed for students interested in the application of mathematics to science or social sciences. The major emphasizes analysis for the physical sciences and probability and statistics for the life and social sciences. In addition to those students interested in the applied mathematics major (either alone or as a component of a dual major), it is hoped that the list of courses below will be useful to science students designing a minor in mathematics.

The major will require 10 semester hours of mathematics including mathematics 12., 13., 113., 118. (or the equivalent), 145., and either 216. or 217. The remaining required coures should be from among the following: 100., 119., 120., 153., any 200-level course, and certain additional Consortium courses upon departmental approval. It is strongly recommended that students interested in physical sciences take 216, while those interested in life and social sciences take 217. The student interested in graduate school should consider the other 200-level courses. especially 214.

The minor requirement consists of a substantial sequence of courses in a mathematically oriented science. The requirement is five semester courses which must not include introductory courses for non-majors. Minors from chemistry, physics, and Science, Technology and Society are acceptable without approval. Certain minors from biology, economics, geography, psychology, and sociology are acceptable with departmental approval. The criterion will be that a large proportion of the courses involve the application of mathematical techniques.

ACTUARIAL SCIENCE: Actuarial science could be described as the science of finance and insurance. A program of study in this field requires a firm grounding in mathematics, but involves problems which cut across the interface of statistics, economics, demography, law, and business management as well

The requirements for this major consist of courses in mathematics, management, and computer science which are relevant to actuarial science. Specifically: Mathematics 12., 13. 118., 119., 153., 217., English 18. or an approved substitute, plus four units to be chosen from the following: Mathematics 100., 120., 247., Computer Science 102., 103., Management 205., 206., 210., Economics 10., or certain other courses with department approval.

Additional courses in computer science, economics, and management are recommended as a supplement to this major Mathematics 160., Problems Seminar, is also available for those students who wish to prepare for specific actuarial examinations. Please consult with the department for further details regarding actuarial science.

MATHEMATICS/MANAGEMENT: The objective of this program is to make available to the mathematically inclined student the opportunity to prepare for (1) a career in business management, (2) graduate study in operations research, or (3) graduate work in a Master of Business Administration program.

Course requirements: Mathematics 12., 13., 217. At least two units from the following: Mathematics 100., 119., 120., 153., 247. Computer Science: Mathematics 118., or C.S. 101., and at least one additional unit from the following: C.S. 102., 103., 140 Management Science: Management 100., plus at least one unit from the following: Management 205., 206., 209., 210., 211. Economics: At least two units, not to include courses which are principally mathematical.

It is also recommended that as a supplement to this major. students take Mathematics 153. and 247. In computer science, C.S. 103, is also strongly recommended. A student anticipating further study in an M.B.A. program should attempt to take all the management courses listed above and possibly one or two more graduate courses in management. Finally, students are encouraged to acquire a reading knowledge of at least one foreign

MATHEMATICS/COMPUTER SCIENCE: This program enables the student to major in mathematics with emphasis on computer science and its applications, for example, in operations research. It provides a firm foundation for further work or graduate study in computer science. This major should also be seriously considered as a possible dual major with any field which draws upon computer science as a method of analysis.

Course requirements: Mathematics 12., 13., 217., 118. or Computer Science 101., Mathematics 119., 120., Computer Science 102., 103., 140., Mathematics 100. or 247. In addition, an advanced course in computer science (at Clark or W.P.I.) or an advanced project must be undertaken. Consult department for approval.

GRADUATE PROGRAM

The department offers courses leading to the degrees of Master of Arts and Doctor of Philosophy.

The requirements for the M.A.* are: (1) 10 full courses at least eight of which must be on the 300 level. These courses usually include one or two full courses of Mathematics 330. — the writing of the master's thesis. They may include seminars and reading courses; (2) the basic courses, Mathematics 316., 318. and 325, must be included. Each of these requirements may be waived for a student presenting evidence satisfying the department of his or her knowledge of the material in question; (3) a master's thesis and (4) an oral examination.

A student working toward the Ph.D. degree and electing to omit the M.A. thesis and M.A. oral examination will be recommended for the M.A. degree upon successful completion of the Ph.D. preliminary examination.

The requirements for the Ph.D.* follow the general requirements of the graduate school. The Ph.D. preliminary examination is usually given orally, but may be written under certain circumstances. Students should consult with their advisers by November of their second year. Students entering with a master's degree should discuss this examination immediately Failure to take this examination at the appropriate time may result in the department not recommending a student for continued support. Scholarships, graduate instructorships, new courses are subject to final approval by the Graduate Board.

The language requirement will be considered to have been fulfilled if the candidate can demonstrate sufficient linguistic ability to carry on effective research in his or her field. The department's decision will depend heavily upon the recommendation of the candidate's adviser.

*All candidates for the M.A. and Ph.D. degrees in mathematics will be required to serve as teaching assistants or as assistants in the computing center as part of the work for their degrees.

COURSES

10. MATH CLINIC AND TUTORIAL.

Individual conferences, diagnostic tests, programmed exercises, and projects are used to develop mathematical skills, concepts, and confidence. This course does not involve classes, but relies on a one-to-one approach. Mathematics 10. may be taken more than one semester as long as the total number of full course credits for 10. and 11. does not exceed two. Semesters 1, 2. Mr. Kennison.

11. INTRODUCTION TO MATHEMATICS.

This course is designed to introduce topics in finite mathematics and can also serve as an exposure or review of those topics which are necessary for calculus. Typical areas to be covered include algebra, theory of equations, geometry, trigonometry, and probability.

Full course, Semesters 1, 2, Modular Term.

Mr. Mancevice, Mr. Kably.

12. CALCULUS.

Introduction to differential and integral calculus of one variable: sequences and series, essential for further study in mathematics as well as for the study of applications in the natural sciences. Not open to students who have taken Mathematics 15, or 16. One year long. May be started Semester 1 or Semester 2. Full course, Semesters 1, 2, Modular Term. Mr. Kennison.

Mr. Stubbe.

13. INTERMEDIATE CALCULUS.

This course assumes the knowledge of one variable calculus and deals with functions of several variables. Topics covered include partial derivatives, line and surface integration, and sequences and series. Applications of these topics to complex analysis, vector analysis, and Fourier analysis are considered. Prerequisite: Mathematics 12., 16., or equivalent. Full course, Semesters 1, 2. Staff.

88. DIRECTED READINGS IN MATHEMATICS.

Variable credit, Semesters 1, 2,

Staff.

89. SPECIAL PROJECTS IN MATHEMATICS.

Variable credit, Semesters 1, 2,

Staff.

100. MATHEMATICAL MODELS. Not offered, 1978-79.

This course introduces the student to the concept of a mathematical model and its application to the solution of real problems. Examples will include application in the areas of finance, transportation, production scheduling, economics, and population theory. The course will include analysis of models constructed by students. Full course. Staff.

113. MATRICES AND LINEAR ALGEBRA.

The course is a study of the fundamental results and computational techniques of matrix algebra and vector spaces. Topics covered may include polynomial rings, systems of linear equations, Gaussian elimination, matrix algebra, determinants, vector spaces, linear transformations and applications. Full course. Semester 1. Mr. Verma.

115. INTERMEDIATE LINEAR ALGEBRA.

This course involves a further, more rigorous treatment of linear algebra than that given in Math. 113. Topics include eigenvectors. eigenvalues, canonical forms, bilinear forms, and applications. Prerequisite: Math. 113. Full course, Semester 2. Ms. Srinivasan.

118. FORTRAN FOR SCIENCE STUDENTS.

This is a half-semester introductory FORTRAN programming course designed especially for students intending to pursue a major in the mathematically-oriented sciences or for those who possess a fair amount of mathematical sophistication. Although there are no prerequisites, students should have taken about three years of math in high school and should be able to handle elementary algebraic expressions and problems. This course will introduce the basic elements of FORTRAN language and an overview of computer programming and data processing in general. The course is essentially an accelerated version of Computer Science 101. Half course, First half, Semester 1. Mr. Stubbe.

119. ELEMENTARY NUMERICAL ANALYSIS.

This is a half-semester introductory course in numerical analysis and the application of computers to the solution of certain numerical problems. Topics covered will include interpolation. error analysis, and interactive methods. Prerequisite: Mathematics 12. and either Mathematics 118. or Computer Science 101. or permission of instructor. Hålf course, Second half, Semester 1. Mr. Stubbe.

120. LINEAR PROGRAMMING.

Not offered, 1978-79.

This course will cover linear programming, its applications, and

numerical algorithms. The simplex method, game theory, and Markov processes will be included. The linear algebra needed will be covered in the course.

Full course.

Mr. Stubbe.

124. INTRODUCTION TO GEOMETRY. Not offered, 1978-79. This course starts with revisiting Euclidean geometry, then leads, via Desargues' and other theorems, to projective geometry. Some transformations of the plane are considered. Finally, some finite geometries are studied. One of the aims of this course is to show the beauty of the deductive approach in mathematics. Prerequisite: equivalent of Mathematics 11. Full course.

Ms. Srinivasan.

125. THEORY OF NUMBERS.

Not offered, 1978-79.

This is an introduction to number theory, and also aims to train students to understand mathematical reasoning and to learn to write proofs. The topics covered include the unique factorization of integers as products of primes, the Euclidean algorithm, congruencies, Fermat's Theorem, and Euler's Theorem (and some applications of the latter, e.g. magic squares). Prerequisite: equivalent of Mathematics 11.

Full course.

Ms. Srinivasan.

135. PATTERN RECOGNITION.

This is an introduction to sequential methods in the classifications or labeling of a group of objects on the basis of certain subjective requirements. Decision-making will be done on the computer either in the recognition of English characters or in the recognition of certain basic structures taken from the game of Go. Prerequisite: FORTRAN.

Full course, Semester 2.

Mr. Stubbe.

140. INTRODUCTION TO MATHEMATICAL LOGIC.

Not offered, 1978-79.

The propositional calculus and the first order predicate calculus, which consists of a language and a method of proving statements made in that language, will be constructed and discussed predominately in relation to mathematical questions such as consistency and completeness.

Full course. Staff.

145. ELEMENTARY DIFFERENTIAL EQUATIONS.

This is an introduction to elementary techniques and concepts for solving and applying differential equations. The equations discussed appear in biology, economics, the physical sciences, and other fields. They give mathematical models describing exponential growth, exponential growth with bound, vibrating springs, planetary motion, and other similar situations.

Prerequisite: Mathematics 13. or permission of instructor.

Full course, Semester 1.

153. ACTUARIAL SCIENCE.

This course deals with the mathematics of finance and its applications. Compound interest, life contingencies and population theory will be among the topics covered. The course is designed to introduce the student to the material included in the third and fourth (F.S.A.) actuarial exams. Prerequisite: Mathematics 12. or permission of instructor.

Full course, Semester 1.

Mr. Poreda.

160. PROBLEMS SEMINAR.

Not offered, 1978-79.

This course emphasizes the creative use (as opposed to the mere acquisition) of mathematical tools. Students should develop their mathematical resourcefulness by pursuing one or more of the "problem areas" presented. The problems shall be fairly specific yet open-ended and of interest to students at varying levels and with differing mathematical tastes. The course should be good preparation for actuarial examinations, for Mathematics 200. and for students who eventually wish to construct and analyze mathematical models in, for example, the social sciences.

Full course.

Staff.

200. ADVANCED PROJECTS.

This course is intended for students pursuing advanced projects that involve mathematics. These projects might arise from mathematics or from some other discipline. Signature required. Variable credit.

214. MODERN ANALYSIS.

Not offered, 1978-79.

Topological and metric methods are introduced and studied. These generalize and explain many ideas first encountered in calculus. These methods will be applied to study differentiation, integration and convergence, among other topics, in greater depth. Prerequisite: Mathematics 13. or 113.1. or permission of instructor.

Full course.

Staff.

215. MODERN ALGEBRA.

This course introduces the theory of groups, rings, fields, integral domains, canonical forms, and related topics. The treatment will be axiomatic with emphasis on the construction of the proofs of certain theorems. Prerequisite: 113. or permission of instructor. Full course, Semester 1.

Mr. Verma. Full course, Semester 2.

Ms. Srinivasan.

216. INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE.

Not offered, 1978-79.

This is an introductory course designed for the undergraduate science major or graduate student preparing for Mathematics 316. Cauchy's theorem, Power series, Laurent series, the residue theorem, harmonic functions, and physical applications such as problems in two dimensional flow are among the topics to be covered. The object is to convey understanding of the classical theorems of complex analysis as opposed to rigorous proofs of their most general statements.

Full course.

Staff.

217. PROBABILITY AND STATISTICS.

This course is designed to introduce students to the theory and applications of probability and statistics. Techniques used to solve problems will be stressed along with the associated mathematical theory. Among the topics covered are combinatorial methods, postulates of probability, stochastic processes, probability densities, mathematical expectation, sampling distributions, estimation, hypothesis testing, regression, and correlation. The syllabus for this course includes most of the material recommended for those preparing for the second (F.S.A.) actuarial examination.

Full course, Semesters 1, 2.

Staff.

244. DIFFERENTIAL EQUATIONS.Not offered, 1978-79. First order and linear differential equations are covered. Various methods of solution are stressed, i.e. series, integrating factors, variation of parameters, etc. An introduction to partial differential equations and boundary value problems is discussed with some applications to fluid and thermal dynamics.

Full course.

Staff.

245. APPLIED MATHEMATICS.

This course studies the development of orthogonal functions, Fourier Series, Legendre Polynomials, and Bessel functions and their use in solving heat conduction and vibration problems, the Laplace Transfrom. Corequisite: Mathematics 13.

Full course, Semester 2.

Mr. Stubbe.

247. OPERATIONS RESEARCH.

Linear models, linear programming, the simplex method, sensitivity analysis, network analysis, and dynamic programming will be covered in this one-semester course. Prerequisites: Mathematics 12. and 113.

Full course, Semester 2.

Mr. Poreda.

290. TOPICS IN ANALYSIS.

Content will be changed from year to year.

Variable credit. Semesters 1, 2, Modular Term.

Not offered, 1978-79. 292. TOPICS IN TOPOLOGY. Point set topology, metrization theorems, extension theorems will be covered during the first half. During the second half, algebraic topology will be introduced. Topics in homotopy and homology theory will be covered. Staff.

Full course.

293. TOPICS IN GEOMETRY.

Content will be changed from year to year. Variable credit.

Semesters 1, 2, Modular Term.

Staff.

Staff

Staff.

298. HONORS I.

Variable credit.

Semesters 1, 2.

299. HONORS II.

Variable credit. Semesters 1, 2,

Staff.

300. SETS AND TOPOLOGY. Not offered, 1978-79.

The course studies the foundations of set theory and the relationship of various fundamental axioms, such as Zorn's lemma and the Axiom of Choice. Point-set topology is examined as far as the Hahn-Mazurkiewicz Theorem. Full course.

Staff.

316. FUNCTIONS OF A COMPLEX VARIABLE.

This course deals with the theory of functions of one complex variable that possesses a derivative. It is intended that the student in this course be brought to the point where he or she can comprehend the existing unsolved problems as well as the historical development and applications of this field. Among the most advanced topics are conformal mapping, entire functions, geometric function theory, approximation theory, and Banach spaces of analytic functions. Prerequisites: Mathematics 214. or permission of instructor.

Full course, Semesters 1, 2. Mr. Poreda.

318. FUNCTIONS OF A REAL VARIABLE. Not offered, 1978-79. This is a course in the real number system, topology, measure theory, and related topics. Signature required.



321. ALGEBRAICTOPOLOGY.

Not offered, 1978-79.

This is an introduction to algebraic topology including fibrations and coverings, homotopy, and homology. The relation with category theory will be emphasized. Prerequisites: Mathematics 215, and 318, or permission of instructor. Staff Full course.

325. ADVANCED MODERN ALGEBRA.

This course studies group theory, including the Sylow theorems. free groups, finitely generated abelian groups. Categories and functors. Ring theory, including factorization in commutative rings, polynomial rings, modules over a p.i.d. duality, tensor products. Fields and Galois Theory, including field extensions, finite fields, cyclotomic fields, separability, the fundamental theorem of Galois theory, and the general equation of degree n. Linear algebra, including canonical forms of a matrix, and bilinear forms. If time permits, the Wedderburn structure theorems for Artinian rings. Prerequisite: Mathematics 215. Full course, Semesters 1, 2. Mr. Kilmoyer.

326. SELECTED TOPICS IN COMPLEX ANALYSIS.

The course includes topics selected from the theory of univalent and multivalent functions, geometric function theory, zeros of polynomials, and extremal polynomials. Prerequisite: Mathematics 316, or permission of instructor. Full course. Staff.

327. FUNCTIONAL ANALYSIS.

Staff. Full course.

330. MASTER'S THESIS. Full course.

335. SELECTED TOPICS IN ALGEBRA.

Prerequisites: Mathematics 325. or permission of instructor. Full course.

341. DIFFERENTIAL EQUATIONS.

The course covers ordinary differential equations, theory, and techniques of solutions; partial differential equations; fourier transform, distributions, and their applications. Staff. Full course.

358b. CATEGORY THEORY.

This is an introduction to the basics of category theory. Full course.

376. REPRESENTATION THEORY OF FINITE GROUPS.

Prerequisite: Mathematics 325. and permission of instructor. Full course.

381. SEMINAR IN COMPLEX VARIABLES. Staff. Full course.

382a. SEMINAR IN ABSTRACT ANALYSIS.

Full course.

383. SEMINAR IN ALGEBRA.

Full course.

384. SEMINAR IN CATEGORY THEORY.

Full course. Mr. Kennison.

390. READINGS IN MATHEMATICS.

This course offers reading of the mathematical literature related to the student's research program. Staff. Full course.

391. RESEARCH IN MATHEMATICS.

Direction of the Ph.D. dissertation. Full course.

Staff.

Staff.

Staff.

Staff.

Staff.

Staff.

Staff.

Philosophy

DEPARTMENT FACULTY

Robert N. Beck, Ph.D., Professor of Philosophy, Chairman Albert A. Anderson, Ph.D., Associate Professor of Philosophy Gary E. Overvold, Ph.D., Associate Professor of Philosophy Walter E. Wright, Ph.D., Associate Professor of Philosophy Patrick G. Derr, Ph.D., Assistant Professor of Philosophy

UNDERGRADUATE PROGRAM

The department offers courses both to students who wish to broaden their intellectual perspective by tracing relations among the various fields of knowledge and to those who wish to major in

The requirements for the major in philosophy are; one course in logic; at least two courses from Level II*; and at least five courses from Level III*. A course from Level I* is normally a prerequisite to the major, but, with the exception of Phil. 101... does not constitute part of it. Students will concentrate in one of three areas in Level III, with a minimum of three courses in one area and one course in each of the other two areas. To insure some experience in autonomous learning, each student is also required to take at least one seminar.

In addition to the core major, each student will be required to achieve competence in another discipline. This can be done either by completing the requirements for a double major or by completing six courses in related fields. In consultation with the adviser, the student selects four courses in one discipline (three must be above the introductory level) and two courses from other areas. It is recommended that majors planning graduate work in philosophy complete the third-year level in at least one foreign language.

For students who are motivated to undertake substantial independent research, the department offers both a Senior Thesis Program and Departmental Honors in Philosophy, Departmental Honors are conferred upon majors who, in addition to the usual requirements, fulfill the following three prerequisites: (1) successful completion of a senior thesis, including the oral defense: (2) successful completion of a comprehensive written examination in the major; and (3) an academic record of at least B+ in the major and B overall.

The following table of course distribution summarizes the requirements and options for philosophy majors. (*Level I courses have numbers 100-119; Level II courses, 120-129; Level III courses, 130-199; and research courses in Level III, 200-250.)

LEVELI Problems of Philosophy Personal Values Introduction to Logic

LEVEL II History of Ancient Philosophy History of Medieval Philosophy History of Renaissance and Modern Philosophy History of American Philosophy Kant and the 19th Century

LEVEL III

A. PROBLEM OF VALUES

History of Contemporary Philosophy

Medical Ethics Problems of Ethics Aesthetics Social Philosophy Philosophy of Religion Philosophy of Law Philosophy of Education TYPICAL RELATED FIELDS

Foreign Languages & Literatures Visual & Performing Arts Sociology History

Theory of Value History of Philosophy courses Seminars in Philosophy Advanced Topics in Philosophy

B. PROBLEM OF BEING

Metaphysics Ontology Phenomenology Philosophy of Mind Existentialism Kierkegaard and Nietzsche History of Philosophy courses Seminars in Philosophy

TYPICAL RELATED FIELDS

Psychology **Physics** Biology History

Economics

Education

Government

Geography

C. PROBLEM OF KNOWLEDGE

Advanced Topics in Philosophy

Epistemology Symbolic Logic Philosophy of Science I Philosophy of Science II Philosophy of Social Science Philosophy of Language Philosophy of Mathematics History of Philosophy courses Seminars in Philosophy

Advanced Topics in Philosophy

TYPICAL RELATED FIELDS Mathematics Linquistics Psychology **Physics** Chemistry

Biology Science, Technology & Society

COURSES

100. PROBLEMS OF PHILOSOPHY.

This is an introduction to fundamental problems of philosophy through study of alternative philosophical positions. Problems of ethical, political, and aesthetic value, knowledge and reality. religious belief, and human nature and freedom are considered through reading major works by philosophers such as Plato. Descartes, Hume, Kant, Nietzsche, James, Camus, and Whitehead. Limited to freshmen. Full course, Semester 2. Mr. Anderson.

101. INTRODUCTION TO LOGIC.

This is a study in logic as philosophy and practice. It is an introduction to the meaning of logical reasoning with a study of its principles and methods; an investigation of the philosophical presuppositions of logic.

Full course, Semester 1. Mr. Overvold.

102. PROBLEMS OF PHILOSOPHY.

The course studies the nature and methods of philosophy, with application of philosophical method to contemporary personal and social problems. Detailed analysis of some typical problems in various fields of philosophy is included. Open to freshmen and upperclassmen.

Full course, Semester 1.

Mr. Derr.

105. PERSONAL VALUES.

The course involves exploration of philosophical approaches to the fundamental human value problems such as truthfulness, sexual integrity, love, violence, war, and death. The connection between personal value choices and ethical theories will be studied. Limited to freshmen.

Full course, Semester 1.

Mr. Wright.

110. PROBLEMS OF PHILOSOPHY.

(See course description under Philosophy 102.) Not open to freshmen.

Full course, Semester 2.

Mr. Beck.

121. HISTORY OF ANCIENT PHILOSOPHY.

The course examines the origins of philosophical thought in the West with emphasis on the early Greeks, Plato, and Aristotle, It includes examination of classical theories of man, society, and

nature providing background for later philosophical reflection. Full course, Semester 1. Mr. Anderson.

122. HISTORY OF MEDIEVAL PHILOSOPHY.

Not offered, 1978-79.

Students study the major Jewish, Islamic, and Christian philosophers of the Medieval period, with special attention to Moses, Maimonides, Averroes, Aguinas, and Ockham, Typical issues include the relation of faith and reason, the nature of universals, and political theory. Mr. Derr. Full course.

123. HISTORY OF RENAISSANCE AND MODERN PHILOSOPHY.

The two great movements in modern thought — Continental Rationalism and British Empiricism — will be examined from their common origin in Descartes to their later articulations by Locke, Berkeley, Spinoza, Leibniz, and Hume. Particular emphasis is given to the powerful influences of the Modern period upon contemporary philosophy.

Full course, Semester 2.

Mr. Derr.

124. KANT AND THE 19TH CENTURY.

Not offered, 1978-79.

Trends in philosophy during this period are considered as background for understanding recent philosophy. Philosophers studied may include Fichte, Hegel, Schopenhauer, Nietzsche, Marx, Engels, and Comte. Prerequisite: two full courses in philosophy (Philosophy 123. is recommended). Full course. Mr. Wright.

125. HISTORY OF CONTEMPORARY PHILOSOPHY.

Not offered, 1978-79.

This is an investigation of the major types of philosophical thought distinctive of recent philosophy: pragmatism, logical positivism. ordinary language, philosophy, existentialism, and phenomenology. Emphasis is upon each as a coherent perspective upon experience with a focus on the style and methodology of each view. Prerequisite: one full course in philosophy (Philosophy 123. or 124. is recommended). Full course. Mr. Overvold.

126. HISTORY OF AMERICAN PHILOSOPHY.

Not offered, 1978-79.

This is a survey of important philosophical ideas in America with emphasis upon their relationship to the American experience. Prerequisite: one full course in philosophy. Full course. Mr. Beck.

INTERMEDIATE COURSES

140. MEDICAL ETHICS.

Not offered, 1978-79.

This is a philosophical investigation of typical issues in medical ethics. These may include: Psychosurgery; Behavior Modification and Control; Euthanasia; Suicide; Definition of Death; Informed Consent; Moral Issues in Research and Human Subjects; Genetic Testing and Counseling; Abortion; Cloning and In-Vitro Fertilization; Confidentiality and Truth-Telling; Patients' Rights; and Allocation of Scarce Medical Resources.

Full course. Mr. Derr.

141. PROBLEMS OF ETHICS.

The course offers consideration of important ethical theories to acquaint students with the problems and scope of ethics and to aid them in the formulation of an ethical outlook. Not open to freshmen.

Full course, Semester 1.

Mr. Beck.

142. SOCIAL PHILOSOPHY.

Students examine principles underlying social structure and functions; the goals, purposes, norms, and ideals of social

process; and the relation of that process to the individual good. Not open to freshmen. Full course, Semester 2. Mr. Beck.

145. EXISTENTIALISM.

This is a study of the major philosophers in twentieth-century Existentialism, with a focus on their redefinition of man in terms of his "lived world" and his nonrational capacities. Prerequisite: two full courses in philosophy. Full course, Modular Term.

149. AESTHETICS.

Staff

Students examine representative theories of the nature of the arts (literature, drama, music, and visual arts), the creative process. aesthetic experience, and art criticism such as those of Aristotle, Nietzsche, Collingwood, Fischer, Dewey, Langer, Sartre, and Arnheim. Prerequisite: one full course in philosophy. Full course, Semester 2. Mr. Anderson.

150. PHILOSOPHY OF RELIGION. Not offered, 1978-79. Students study the nature of religion as revealed by the examination of representative forms of religious experience.

Emphasis is placed on the effect of contemporary knowledge on the understanding of the religious dimension. Prerequisite: one full course in philosophy.

Full course.

Mr. Wright.

151. PHILOSOPHY OF LITERATURE. Not offered, 1978-79. The course involves philosophical approaches to poetry, drama. and the novel through consideration of issues such as truth in literature, the writer and society, the nature of imagination, literary style, and criteria for criticism. Prerequisite: permission of instructor.

Full course.

Mr. Anderson.

155. PHILOSOPHY OF SCIENCE I.

The course concentrates on the following issues: What constitutes a scientific explanation? Can inductive inferences be justified? What grounds or reasons justify the claim that one theory is better than another? Are there such things as objective "facts"? Do scientific theories tell us what the ultimate constituents of the universe are? Prerequisite: one full course in philosophy (waived for science majors) or permission of instructor. Full course. Semester 1. Mr. Derr.

160. SYMBOLIC LOGIC.

This is a basic course in symbolic logic with stress on principles of deductive rigor. There will be some consideration of the philosophical implications of logic. Topics to be discussed include: sentential calculus, predicate calculus, Tarski's definition of Truth. selected metatheorums, and Henkin's completeness proof for the first order predicate calculus. Prerequisite: permission of instructor.

Full course, Semester 2.

Staff.

Staff.

ADVANCED COURSES

171. KANT. Not offered, 1978-79. Immanuel Kant is viewed as a synthesis of the traditions of

Continental Rationalism and British Empiricism. Prerequisite: two full courses in philosophy, including Philosophy 123. Full course.

174. PHILOSOPHY OF MIND. Not offered, 1978-79.

This is a critical examination of the "nature" or concept of mind. Related issues to be considered are: mind-body relationship, the

identity theory of mind/brain, the thesis of the dualism of the mind and matter, and other themes that involve the philosophical examination of psychological phenomena. Prerequisite: two full courses in philosophy, preferably including at least one intermediate or advanced course.

Full course.

Mr. Overvold.

175. METAPHYSICS.

Students receive clarification of the nature of metaphysical thinking and views of representative philosophers on the nature of space, time, causality, matter, force, self-identity, mind, body, and freedom. Prerequisite: two full courses in philosophy. Full course, Semester 1. Mr. Anderson.

176. ONTOLOGY.

Not offered, 1978-79

Two of the most fundamental issues in metaphysics are treated in depth: the problem of universals and the problem of substance. The course includes an examination of Nominalism. Conceptualism, Realism, Bundle Theory, Bare-Particular Theory, and Essentialism. Prerequisite: two full courses in philosophy. Full course Mr. Derr.

177. CONCEPTS OF SELF.

This is an investigation of several perspectives on the nature of the human self. The course will deal with the writings of such thinkers and philosophers as Plato, Aristotle, Descartes, Hume, Heidegger, Strawson, Ornstein, and Castaneda. Emphasis is on group discussion and interaction. Prerequisite: two full courses in philosophy.

Full course, Semester 1.

Mr. Wright.

180. EPISTEMOLOGY.

The study of epistemology is, broadly, the study of the nature of knowledge. Within this very general heading are a host of specific topics and from that group this course will focus on the interrelationships among belief, knowledge, evidence, proof, truth, and also will consider the problem of skepticism. Prerequisite: two full courses in philosophy.

Full course, Semester 1.

Mr. Overvold.

182. KIERKEGAARD AND NIETZSCHE.

This course offers an interdisciplinary investigation of the themes of nineteenth century Romanticism through the analysis of major writings by Soren Kierkegaard and Friedrich Nietzsche, Emphasis is on their doctrines of knowledge, existence, and man, and their relationship to Romanticism in German and English literature and in music. Prerequisite: permission of instructor. See also Program of Humanistic Studies.

Full course, Semester 1.

Mr. Overvold.

185. PHILOSOPHY OF LANGUAGE. Not offered, 1978-79. This is an analysis of the concepts of reference, meaning, rules, intentionality, intensionality, and the relation of language to thought. Particular attention is given to the Speech Act Tradition (Austin, Grice, Strawson, Searle), the recent developments in Transformational-Generative Grammar (Chomsky, Katz), and the implications of language theory for the social sciences (Ricoeur). Prerequisite: two full courses in philosophy or one full course in linguistics or permission of instructor.

Full course.

Mr. Derr.

186. PHILOSOPHY OF SCIENCE II. Not offered, 1978-79, This is an advanced treatment of human rationality as exhibited in science. Prerequisite: two full courses in philosophy or three full courses in the sciences.

Full course.

Mr. Derr.

Not offered, 1978-79.

188. THEORY OF VALUE.

Students will study definitions of "value"; psychological and social conditions of different values; function of value judgments; nature of standards and their role in criticism - in art, science, morals, aesthetics. They will examine foundations of the normative disciplines, i.e., logic, ethics, aesthetics. Prerequisite: two full courses in philosophy, including a course in one of the following areas: logic, ethics, or aesthetics.

Full course.

Mr. Anderson.

RESEARCH IN PHILOSOPHY

200. ADVANCED TOPICS IN PHILOSOPHY.

This course offers group discussion, individual tutorials, and independent research in areas of philosophy. The independent research involves a topic of each student's choice within the designated area. Prerequisite: where appropriate, completion of regular departmental course(s) in the area; two full courses in philosophy; and permission of instructor. Offerings vary each semester. Topics include: Husserl, Philosophy of Law, Existentialism, German Philosophy, Social Philosophy, Philosophy of Language, Greek Philosophy, Aesthetics, Philosophy of Logic. Variable credit.

201. SURSEMINAR: RESEARCH AND WRITING IN PHILOSOPHY.

Prerequisite: permission of instructor. Half course.

Mr Beck

202. SURSEMINAR: PHILOSOPHICAL JOURNALS.

Prerequisite: permission of instructor.

Half course.

Mr. Beck

203. SURSEMINAR: TEACHING IN PHILOSOPHY.

Prerequisite: permission of instructor.

Full course.

Staff.

Staff.

204. SURSEMINAR: READINGS IN PHILOSOPHY IN GERMAN.

Prerequisite: permission of instructor.

Full course.

Mr. Wright.

205. APPLIED AESTHETICS.

The course offers examination of philosophical ideas in the context of concrete artistic phenomena. Topics will alternate among architecture, literature, music, theater, and the media. Emphasis will be placed both upon explication of artistic images and philosophical concepts. Full course, Semester 1. Mr. Anderson.

220. - 250. SEMINARS IN PHILOSOPHY.

Students will undertake advanced studies of topics of central importance to philosophy. Offerings vary each year, but the following are typical and usually repeated. Prerequisite: two full courses in philosophy, including at least one at level III.

220. PLATO. Mr. Anderson. 221. ARISTOTLE. Mr. Derr.

Mr. Beck, Mr. Wright. 223. HEGEL. 225. PHILOSOPHY OF RELIGION.

Mr. Overvold. 227. PHENOMENOLOGY.

228. PHIL. OF SOCIAL SCIENCE. Mr. Overvold, Mr. Derr. 230. KANT. Staff.

243. PHILOSOPHY OF EDUCATION. Mr. Beck.

299. SENIOR THESIS.

Students will engage in advanced individual study of a philosophical problem. Normally this is a one-year program involving two full courses. Prerequisites: (1) permission of the department, usually granted only to majors having a minimum academic record of B+ in the major and B overall; (2) prior completion of at least five full courses in philosophy, including two courses at Level III; and (3) submission and approval of a thesis proposal. This proposal must describe the nature and scope of the projected work; include a bibliography of the anticipated principal sources; indicate why the proposed work is primarily philosophical; and be approved by the department and by the student's thesis adviser. If accepted, the proposal becomes a major criterion against which the completed thesis is judged. All prerequisites must be fulfilled before registration for thesis work: in practice, this means no later than spring of the junior year. Upon the student's completion of the thesis, the department will schedule an oral defense. (Note that successful completion of the thesis is a

necessary but not a sufficient condition for Departmental Honors in Philosophy — see above.)

Variable credit.

Staff.

299.9. INTERNSHIP IN PHILOSOPHY.

Variable credit, Semesters 1, 2,

Staff

335. STUDIES IN AMERICAN INTELLECTUAL HISTORY.

Independent studies. (See History 335.)

Variable credit.

Semesters 1, 2, Modular Term.

Mr. Beck.

Physics

DEPARTMENT FACULTY

Roy S. Andersen, Ph.D., Professor of Physics, Department Chairperson

Christoph Hohenemser, Ph.D., Professor of Physics*
John A. Davies, Ph.D., Associate Professor of Physics
Harvey Gould, Ph.D., Associate Professor of Physics**
Roger P. Kohin, Ph.D., Associate Professor of Physics
Albert M. Gottlieb, Ph.D., Assistant Professor of Physics and

Adjunct Assistant Professor of Chemistry.

Robert L. Goble, Ph.D., Visiting Assistant Professor of Physics and

Science, Technology and Society
Gary S. Collins, Ph.D., Instructor and Research Associate in
Physics

Robert M. Suter, Ph.D., Instructor and Research Associate in Physics

Madhoo Kanal, Ph.D., Research Professor of Physics
Peter Magnante, Ph.D., Associate Professor of Physics (part-time)
Edward L. O'Neill, Ph.D., Professor of Physics (Affiliate)
Raymond Goloskie, Ph.D., Associate Professor of Physics
(Affiliate)

John F. Wild, Ph.D., Associate Professor of Physics (Affiliate)
L. Ramdas Ram-Mohan, Ph.D., Assistant Professor of Physics (Affiliate)

- *On leave of absence, Semester 2, 1978-79.
- **On leave of absence, 1978-79.

The Curriculum

The academic program of the Department of Physics provides opportunities for study and experimental investigation of the basic principles that are fundamental in all science and that have led to profound scientific, philosophical, and technological developments in the twentieth century. The department's offerings range from courses that are accessible to students with no previous training in science and little mathematical sophistication to courses at the research frontiers addressing topics of current importance to the research physicist. Laboratories in electronics. optics, alternate energy systems, and instrumentation provide opportunities for students to become familiar with experimental techniques. Physics majors may choose one of several areas of specialization, which, together with the core curriculum, leads to the Bachelor of Arts degree. Undergraduate physics majors are encouraged to work closely with the faculty in research projects at the earliest possible stage of their studies. Graduate students can undertake programs leading to the M.A. and Ph.D. Formal courses (excluding reading courses and special topics) fall into six categories, as described below:

1) Courses for Non-scientists

These courses are designed to impart a degree of literacy in the physical sciences, acquaint students with the nature of scientific inquiry, and help students understand the impact of science in the contemporary world. The courses are suitable for students with little mathematical background and require limited use of high school level geometry and algebra. Included are

Astronomy 1. and 2., and Physics 2. and 101.
2) Introductory Courses for Science Students

Prospective science majors are encouraged to study some physics in their freshman or sophomore years because all contemporary sciences rely heavily on basic physical principles. The first year courses, Introductory Physics or Classical Physics, together with a laboratory course, fulfill the minimum physics requirement for biology and chemistry majors and students in the pre-medical/pre-dental program, and give the foundation for all students planning to do advanced work in physics or in a discipline requiring a physics background. Second-year courses, Quantum Physics and Statistical and Thermal Physics, continue the introductory sequence and are prerequisites to the more advanced courses.

3) Laboratory Courses

These courses in experimental physics range from the introductory level to the beginning graduate level. The Introductory Laboratory, Physics 19., fulfills the minimum laboratory requirement of the biology, chemistry, and pre-medical/pre-dental programs, but students are encouraged to substitute Physics 118., Optical Projects Laboratory, Physics 119., Electronics, Physics 132., Alternate Energy Systems Laboratory, or Physics 128., Biological Physics, for this requirement. More advanced laboratory work is available in Physics 129. and 229., and in special projects. 4) Advanced Undergraduate Courses

These courses provide an extensive physics background, continue the sequence for physics, and prepare students for independent work, for graduate studies, or for a career in physics or related fields. Intermediate-level courses include Electricity and Magnetism and Atomic and Nuclear Physics; more advanced courses include Classical Dynamics, Classical Electrodynamics, Quantum Mechanics, and Statistical Mechanics. Courses at the 200-level are not usually open to students until they have completed the physics core curriculum.

5) Basic Graduate Courses

These courses form the background for research in all areas of physics and are required for doctoral candidates. The basic graduate courses are Physics 301., 302., 303., 305., 309., and 310. 6) Specialized Graduate Courses

These courses extend the basic graduate courses to the research frontier and are numbered 311. or higher. Students specializing in particular areas may choose those courses relevant to their interests. The courses are given when student demand warrants.

The Undergraduate Major

Undergraduate physics majors may choose from any one of five program areas of study: (1) general physics, (2) experimental physics, (3) mathematical physics, (4) biophysics, and (5) technology assessment. Each program consists of a common core curriculum, normally to be completed by the end of the sophomore year, and an area curriculum which defines each student's specialization. The area curriculum is designed to give students depth in their field of specialization and also to give a perspective on the relation of physics to other fields of knowledge.

I. Core Curriculum

This curriculum consists of a two-year survey of classical, quantum, and statistical physics with the associated laboratories and two years of mathematics. Physics majors normally are expected to complete this curriculum in their sophomore year. The core curriculum consists of the following courses:

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		Units
1)	Introductory Physics, Physics 11., or Classical Physics,	
	Physics 12.	2
2)	Calculus, Mathematics 12.	2
3)	Electronics, Physics 119., and Instrumentation	
	Laboratory, Physics 129.	2
1)	Quantum Physics, Physics 113. or 114.	1
5)	Statistical and Thermal Physics, Physics 123, or 124.	1
3)	Intermediate Calculus, Mathematics 13.	2
	Tota	1 10
	Students with a strong background in physics and	

110 PHYSICS

mathematics may replace any required courses with appropriate more advanced courses, with the approval of the departmental undergraduate adviser. Students do not receive credit for courses skipped but may count them toward the major requirement. The selection of Physics 11. or 12. should be done in consultation with the departmental undergraduate adviser.

II. Area Curricula

Required

Required

Majors must choose from one of five area programs prior to the beginning of their senior year. The rationale and requirements of the five area programs are as follows:

1) General Physics: This program is designed for the student who wishes to major in physics as part of a general liberal arts education and who does not wish to do graduate study or research in physics or the other basic sciences. The program provides maximum freedom of choice and is an excellent preparation for professional schools, business, and elementary teaching.

a.	Physics Core	10
b.	Physics 131. and 132. or Physics 164. and 174.	2
C.	Mathematics above Mathematics 13.	2
d.	Chemistry	2
e.	Related areas: six courses in computer science, science education, history of science, philosophy of science, Science, Technology and Society, or other areas	
	approved by the undergraduate physics adviser.	6
	Total	22

2) Experimental Physics: This program is designed for students who may wish to pursue graduate study in physics or a closely related area. A principal feature of the program is the requirement of a two-semester experimental research project.

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a.	Physics Core	10
b.	Physics 164. and 174.	2
C.	Physics 231.	2
d.	Mathematics above Mathematics 13.	2
e.	Chemistry	2
f.	Related areas: four courses in computer science, historof science, philosophy of science, biology, Science, Technology and Society, or other areas approved by the	
	undergraduate adviser.	_4
	Tota	1 22

3) Mathematical Physics. This program is designed for students who wish to pursue graduate study in physics or a related area. A principal feature of the program is the requirement of considerable course work in mathematics and logic.

	Required	Units
a.	Physics Core	10
b.	Physics 164. and 174.	2
C.	Physics 201, or 205.	2
d.	Mathematics above Mathematics 13., (e.g., algebra,	
	complex variables, differential equations, and modern	
	analysis or applied mathematics)	4
e.	Philosophy of science and logic	2
f.	Related areas: chemistry, computer science, biology,	
	and Science, Technology and Society, or other areas	
	approved by the undergraduate adviser	_2
	Total	al 22

4) Biophysics: This program is intended for students who wish to obtain a strong background in the physical sciences as preparation for medical school or graduate-level work in the life sciences.

311000.		
Required	Ū	nits
Physics Core		10
Physics 164. or 174.		1
Topics in Biophysics, Physics 240.		1
Chemistry: inorganic, organic, and physical		5
Biology		4
Biochemistry		_1
	Total	22
	Physics Core Physics 164. or 174. Topics in Biophysics, Physics 240. Chemistry: inorganic, organic, and physical Biology	Physics Core Physics 164. or 174. Topics in Biophysics, Physics 240. Chemistry: inorganic, organic, and physical Biology Biochemistry

5) Technology Assessment: This program is designed to provide students with a sound basis for conducting physical, economic, and value assessments of selected technological systems. The goals of the major are similar to the major in Science, Technology and Society, but feature more extensive work in physical science.

a.	Physics Core	10
b.	Physics 131, and 132, or Physics 164, and 174.	2
C.	Mathematics beyond Mathematics 13.	1
d.	Related science: chemistry or biology	2
e.	Science, Technology and Society	3
f.	Related areas: four courses in economics, geography,	
	government or philosophy or other area approved by the	е
	undergraduate adviser	4

Total

Undergraduate Honors

Units

Units

Required

A qualified undergraduate in any of the major options is encouraged to participate in the physics honors program. During the junior and senior years, honors students conduct an experimental or theoretical research project under the guidance of a faculty member. This work is submitted to the department as an honors thesis. Recommendation for a degree with honors in physics is determined by the quality of each thesis and the performance of students in an oral defense of their thesis. An honors candidate must maintain an average of B- in physics, chemistry, and mathematics courses. Students may gain credit for honors work by registering for Physics 231., 232., or 233.

Additional information on the research interests of the faculty, research facilities, titles of recent undergraduate research projects, and the present activities of recent Clark physics graduates is given in a brochure entitled "The Undergraduate Program in Physics at Clark University," which is available from the department chairman.

Graduate Program

The Department of Physics offers the Master of Arts and Doctor of Philosophy degrees in physics, and jointly with the Department of Chemistry, a Ph.D. in chemical physics. Departmental research is concentrated in the experimental and theoretical study of condensed matter with an emphasis on phase transitions. Other research areas represented in the department are radiation damage studies, technology assessment, applied physics, and biophysics.

The academic aspects of the graduate programs in physics are flexible and innovative in nature, with an emphasis on close student-faculty contact, informal student evaluation, and early participation in research.

Beginning graduate students are required to take a placement examination which tests their knowledge of undergraduate physics. A student failing this examination may be required to take a remedial program before entering fully into the graduate program, and may be asked to fulfill the requirements of the M.A. before proceeding to the Ph.D.

To receive the M.A. degree students must satisfy the general university residence and course requirements, pass with a grade of B- or better four units of the basic graduate courses, Physics 301., 302., 305., 309., and 310., one unit of Physics 303., and pass two oral examinations in the subject matter of the basic graduate courses. In contrast to many M.A. physics programs at other universities, students must also complete a thesis based on original research.

To receive the Ph.D., students must, in addition to the university residence and course requirements, pass with a grade of B or better, the basic graduate courses, Physics 301., 302., 305., 309., and 310., and two units of Physics 303. To qualify for Ph.D. research, students must pass four oral examinations in the subject matter of the basic graduate courses. Students must also pass at least one graduate course in a subject other than physics, demonstrate literacy in a foreign language, and computer programming, and complete a dissertation based on original research. Students entering with advanced standing and transferable credit are encouraged to demonstrate their

proficiency in core graduation courses through examination.

Graduate students in both the M.A. and Ph.D. programs are required to obtain supervised teaching experience either as teaching assistants or teaching fellows in the department or elsewhere, if approved by the department.

Those interested in further information on the research interests of the faculty, and research opportunities for graduate students in the department should request the brochure "The Graduate Program and Research in Physics at Clark." Additional information on graduate requirements and their timing is available in the "Physics Graduate Student Handbook." Copies of both are available from the department chairman.

Application forms for admission and financial aid may be requested from the department chairman. During the academic year support is available in the form of tuition remission, teaching assistantships and research assistantships. The department considers the financial support of its graduate students an important responsibility.

COURSES

2. THE PHYSICS OF EVERYDAY EXPERIENCE.

Not offered, 1978-79. This is an introduction to the basic physical concepts necessary for a fundamental understanding of our everyday observations of the physical world, and the nature of discovering, reasoning, and concept-formation in the physical sciences. Topics will include the physics of hearing and seeing, matter in motion, heat, electricity and magnetism, the nature of matter, and a study of man's place in the physical universe. The course is directed towards the non-scientifically oriented student. Although recent advances in science and technology are discussed, the emphasis in Physics 2. is on an understanding of everyday experience. There are three

lectures per week plus an open, informal laboratory. Offered in alternate years.

Full course.

Mr. Gottlieb.

11. INTRODUCTORY PHYSICS.

This is a problem-oriented course for both science majors and for the general student desiring a survey of physics. The course stresses the simplicity and self-consistency of physical models and mathematical laws in explaining a variety of phenomena. Topics include Newtonian and relativistic mechanics, thermal physics, electro-magnetism, basic electrical circuit theory, optics, quantum physics, and nuclear physics. Calculus is not a prerequisite or corequisite although some of its concepts are developed as part of the course. Together with the Physics 19., Introductory Laboratory, Physics 11. satisfies the requirement for majors in Biology, Chemistry, and Science, Technology and Society. It also satisfies requirements for students in the pre-medical/pre-dental program. The course may be selected by physics majors desiring a less mathematically rigorous introduction to the subject than that of Physics 12., and it satisfies the prerequisite for advanced courses in physics. There are three lectures plus a discussion hour per week. Two sections of the course are offered with one section restricted to freshmen and sophomore students. Full year course, Semesters 1, 2. Mr. Andersen, Mr. Davies.

12. CLASSICAL PHYSICS.

This is an introductory survey of classical physics for science majors and others who require a mathematically complete approach to the material and who expect to continue their study of physics beyond the introductory year. Problem solving is emphasized and independent work by students is expected. There are three lectures and one tutorial per week for two course credits. Credit for both Physics 11. and 12. is not granted. Prerequisite: permission of instructor and departmental undergraduate adviser.

Full year course, Semesters 1, 2.

Mr. Kohin.

19. INTRODUCTORY LABORATORY.

This is a laboratory course designed to accompany Physics 11. or 12. Emphasis is on physical measurements and techniques and on the ideas of applied mathematics needed to interpret experimental results. There is one meeting per week; one-half course credit for the year. Students who are required to register for this course to satisfy departmental or program requirements do not pay extra tuition if concurrently registered for Physics 11. or 12. One-quarter course, Semesters 1, 2.

101. PARTICLE PHYSICS.

This is an honors physics seminar and laboratory for non-science students. A fundamental problem in physics during the past 40 years has been to combine the ideas of relativity and quantum mechanics to give a satisfying picture of the nature of matter. The problem has not been solved; however, much progress has been made. Experiments have identified a surprising number of new kinds of properties of particles, and recent theories have clarified the relationship between these particles. The course will present some of the key developments in a form accessible to students with limited scientific and mathematical backgrounds. The following topics will be treated: introduction to quantum mechanics and special relativity; classification of presently known particles and their interaction; description of some current experiments and their results. An integral part of the course will be a series of laboratory experiments on the important properties of elementary particles. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Collins, Mr. Goble.

113. QUANTUM PHYSICS.

This is a third-semester introductory course in physics to follow either Physics 11. or 12. This course introduces the concepts of quantum physics with applications to the microscopic world. The philosophical implications of the theory are discussed. This course is appropriate for biology, philosophy, and S.T.S. majors as well as for physics and chemistry majors. Prerequisites: Physics 11. or 12., and Mathematics 12. or permission of instructor.

Full course, Semester 1.

Mr. Collins.

114. QUANTUM PHYSICS TUTORIAL.

This course continues the two-year introductory sequence in physics for science majors and follows Physics 12. The material covered is identical to that in Physics 113. but is amplified by weekly tutorials. Students must be prepared to work independently. Credit for both Physics 113. and 114. is not granted. Prerequisite: Physics 12; corequisite: Mathematics 13. Full course, Semester 1.

118. OPTICAL PROJECTS LABORATORY.

This is an introductory laboratory covering the principles, applications, and techniques of modern optics. Projects will treat imaging and photographic techniques, basic optical instruments including the microscope, lasers and holograms, optical communication using fiber optics, and light interactions with matter. The course is of interest to biology, geography, premedical/pre-dental, and psychology majors, as well as to physics and chemistry majors. The course may replace Physics 19. in fulfilling departmental requirements for biology, chemistry, and pre-medical students. There is one tutorial session and two laboratories per week. Prerequisite: at least one semester of Physics 11. or 12.

Full course, Semester 2.

119. ELECTRONICS LABORATORY.

This is an introductory laboratory course in electronics, the goal of which is to build and understand several simple circuits using discrete, as well as integrated, solid state elements. The course will begin with the fundamentals of DC and AC circuit theory and the use of basic test instruments such as the oscilloscope. Special emphasis will be given to operational amplifier and digital logic techniques. The course may replace Physics 19. as an introductory laboratory for biology, chemistry, and pre-

medical/pre-dental students. There are two lectures and one laboratory per week. No prerequisites other than algebra.

Full course, Semester 1.

Mr. Gottlieb.

123. STATISTICAL AND THERMAL PHYSICS.

This is an introduction to the concepts of statistical and thermal physics including statistical mechanics, thermodynamics, and kinetic theory. The course includes an introduction to the laws of thermodynamics and their basis in atomic theory. Much of the course will be practical in nature and stress application in such areas as energy-related problems. The course should be appropriate for majors in S.T.S., biology, physics, mathematics, and chemistry, as well as students in other areas who have an appropriate mathematics background. Prerequisite: Physics 11. or equivalent; corequisite: Mathematics 13.

Full course. Semester 2.

124. STATISTICAL AND THERMAL PHYSICS TUTORIAL.

This course treats the same topics as Physics 123. but is more mathematical in nature. Additional applications are made to problems in physics and chemistry. Much of the subject matter is conducted in tutorials. The student should be prepared to work independently. Prerequisite: Physics 12.; corequisite: Mathematics 13. Credit for both Physics 123. and 124. is not granted.

Full course, Semester 2.

Mr. Davies.

128. BIOLOGICAL PHYSICS LABORATORY.

Not offered 1978-79.

This is a laboratory course designed to introduce students in biology or in the pre-medical/pre-dental program to the physical principles underlying biological systems. Students will become familiar with the instrumentation, analysis, and reporting of experiments on a range of biological phenomena. Experiments will utilize mechanical, thermal, electronic, optical, and nuclear

techniques. The computer will be used to analyze data. The course satisfies the physics laboratory requirement. There is one lecture and one laboratory per week. Prerequisite: Physics 11. or 12. Offered in alternate years.

Full course. Mr. Andersen.

129. INSTRUMENTATION LABORATORY.

This is an introduction to modern physical research instrumentation for students who have completed Physics 119. Emphasis is on measurement of the properties of the fundamental particles including protons, neutrons, electrons, and positrons, and gamma ray photons. Departmental facilities such as the machine shop and electronics stockroom are available. There is one tutorial and two laboratory sessions per week. Prerequisites: Physics 119. and 113.

Full course, Semester 2.

Mr. Collins.

131. SOLAR ENERGY.

See S.T.S. 131. Full course, Semester 1.

Mr. Davies.

132. ALTERNATIVE ENERGY SYSTEMS LABORATORY.

See S.T.S. 132.

Full course, Semester 2.

Mr. Gottlieb.

164. ELECTRICITY AND MAGNETISM.

This is an intermediate level course dealing with the electromagnetic field. This course develops the phenomenology and theories leading to the formulation of Maxwell's equations. Scalar and vector potential theory, the elements of radiation dynamics, and relativistic covariance are discussed. Prerequisite: Physics 11. or 12.

Full course, Semester 1. Mr. Kohin.



174. ATOMIC AND NUCLEAR PHYSICS.

This is an intermediate level course introducing elementary quantum mechanics and emphasizing the applications of the theory to atomic, nuclear, molecular, and particle physics. Prerequisites: Physics 113. or 114., and Mathematics 13. Full course, Semester 2. Mr. Gottlieb.

188. INDEPENDENT PROJECTS.

This is an independent study on topics in experimental or theoretical physics directed by a faculty sponsor. Variable credit, Semesters 1, 2.

Staff.

201. CLASSICAL DYNAMICS.

This is a course designed to prepare the physics major for graduate work in physics. Topics covered include Hamilton's principle, classical scattering theory, rigid body motion, canonical transformations, Hamilton-Jacobi theory, and mathematical methods of physics. The lectures are the same as in Physics 301., but evaluation is separate. Prerequisite: Physics 174. Mr. Wild. Full course, Semester 1.

202. CLASSICAL ELECTRODYNAMICS.

This is a course designed to prepare the physics major for graduate work in physics. Topics covered include boundary value problems in electrostatics and magnetostatics, the electromagnetic field equations and special relativity, electromagnetic waves, radiation theory, multipole fields, and mathematical methods in physics. The lectures are the same as Physics 302., but evaluation is separate. Full course, Semester 2 Mr. Ram-Mohan.

205. QUANTUM MECHANICS.

This is a course designed to prepare the physics major for graduate work in physics. The mathematical framework of quantum mechanics is covered. The lectures are the same as in Physics 305., but evaluation is separate. Prerequisites: Physics 174, and Mathematics 13.

Full year course, Semesters 1, 2.

Mr. Goble.

209. STATISTICAL MECHANICS.

This is a course designed to prepare the physics major for graduate work in physics. Lectures are the same as in Physics 309., but evaluation is separate. Prerequisites: Physics 174., and 123, or 124

Full course, Semester 1.

Mr. Suter.

229. PHYSICAL INSTRUMENTATION LABORATORY.

This is an introduction to modern physical research instrumentation. The course deals with the advanced interpretation of physical measurements in modern physics and is the same as Physics 129., except that interpretation of experiments is at the same advanced undergraduate or beginning graduate level. Undergraduates who have completed 129. may register for 229.

Full course, Semester 2.

Mr. Collins.

230. DIRECTED READINGS IN PHYSICS.

These directed readings in physics will provide the special needs not covered in regular courses.

Variable credit. Semesters 1, 2,

Staff

231. SPECIAL PROJECTS IN EXPERIMENTAL PHYSICS.

These are independent laboratory projects done under the guidance of a faculty adviser. Variable credit, Semesters 1, 2 Staff.

232. SPECIAL PROJECTS IN THEORETICAL PHYSICS.

These are independent projects in theoretical physics done under the guidance of a faculty member. Variable credit, Semesters 1, 2

Staff.

233. SPECIAL PROJECTS IN APPLIED PHYSICS.

These independent projects in applied physics are done under the quidance of a faculty adviser. Variable credit, Semesters 1, 2,

240. TOPICS IN BIOPHYSICS.

This is a course specifically designed for the senior physics major in the biophysics area program. The principles of biology, chemistry and physics are applied to a variety of biological phenomena.

Full course, Semester 2.

Mr. Andersen.

301. CLASSICAL DYNAMICS.

This is a graduate-level course in classical mechanics. The topics covered are similar to Physics 201, but are treated in greater depth

Full course, Semester 1.

Mr. Wild.

302. CLASSICAL ELECTRODYNAMICS.

This is a graduate-level course in classical electromagnetic theory. The topics covered are similar to Physics 202, but are treated in greater depth.

Full course, Semester 2.

Mr. Ram-Mohan.

303. RESEARCH APPRENTICESHIP.

An apprentice will have direct participation in the experimental and theoretical research groups of the department. The student spends seven to 14 weeks working in a variety of research groups. Ph.D. students should enroll in the course for two semesters, M.A. students for one semester. Full course, Semesters 1, 2.

305. QUANTUM MECHANICS.

This is a comprehensive course in quantum mechanics. Topics include the Schrödinger equation and the general structure of wave mechanics, symmetries and angular momentum, potential scattering, perturbation theory, interaction of radiation with matter, spin, second quantization, and an introduction to relativistic quantum mechanics.

Full year course, Semesters 1, 2

Mr. Goble.

309. STATISTICAL MECHANICS.

This is a comprehensive course in statistical mechanics and kinetic theory. Topics treated included ensembles, principles of thermodynamics, classical equations of state for interacting classical fluids, Mayer cluster expansion, classical lattice models. the Fermi distribution and the ideal degenerate electron gas, the Bose distribution, the Debye theory of solids and the Bose-Einstein condensation, mean field theory of continuous phase transitions. and the Boltzmann equation. Full course, Semester 1. Mr. Suter.

310. SOLID STATE PHYSICS.

This is an introduction to the quantum theory of solids. Topics covered include free electron theory of metals, crystal and reciprocal lattices, band structure and the Fermi surface, lattice dynamics, insulators, and semiconductors. Prerequisites: Physics 305. and 309.

Full course, Semester 2.

311. ADVANCED QUANTUM MECHANICS. Not offered 1978-79. This course includes relativistic quantum mechanics, quantum

electrodynamics, and the many-body problem. Prerequisite: Physics 305. or equivalent. Full course. Mr. Gould.

312. APPLICATIONS OF GROUP THEORY TO PHYSICS.

Not offered, 1978-79.

This is a representation theory for finite groups. Applications to crystallographic point groups. Representations of continuous impact groups: the rotation group. The Wigner-Eckart theorem and selection rules. The permutation group and its application to the

system of identical particles. Classification of states of a multielectron atom.

Full course, Semester 2.

Mr. Davis.

314. THEORY OF MANY-PARTICLE SYSTEMS.

Not offered 1978-79.

The equilibrium and linear response properties of many-body systems are studied at zero and non-zero temperatures using memory function techniques and thermodynamic Green's functions. Applications are made to degenerate Fermi liquids, superfluid 4He, and superconductivity. Full course.

Mr. Gould.

315. CRITICAL PHENOMENA.

Not offered 1978-79. This is a review of recent experimental results in magnetic, liquidgas, and structural phase transitions. General behavior of continuous phase transitions, critical indices, scaling laws, and universality. Ginzburg-Landau-Wilson model, mean field approximation, renormalization group, perturbation expansions, real-space calculations, dynamic behavior, application of renormalization group to other problems are studied. Mr. Gould, Mr. Hohenemser. Full course.

317. SOLID STATE SPECTROSCOPY.

Not offered 1978-79.

This is a theoretical and experimental review of the physics of solids observed using spectroscopic methods. Full course.

Mr. Hohenemser.

325. RESEARCH SEMINAR.

This is a student participation seminar in current research problems. Variable credit, Semesters 1, 2, Staff. 330. TOPICS IN EXPERIMENTAL PHYSICS.

A specific topic in experimental physics is considered at the research level. Topics are selected on the basis of current

Variable credit, Semesters 1, 2,

Staff.

335. TOPICS IN THEORETICAL PHYSICS.

A specific topic in theoretical physics is considered at the research level. Topics are selected on the basis of current interest.

Variable credit, Semesters 1, 2,

Staff.

340. COLLOQUIUM.

Weekly invited lecturers speak on research topics of current interest. Required for all graduate students. No credit, Semesters 1, 2,

Staff.

350. RESEARCH.

Thesis and dissertation preparation. Variable credit, Semesters 1, 2.

Staff.

The following courses are related to Physics offerings and are recommended to students:

Astronomy 1. EXPLORING THE UNIVERSE.

See Astronomy 1.

Full course, Semester 1.

Mr. Andersen.

Astronomy 2. BLACK HOLES AND COSMOLOGY.

See Astronomy 2

Full course, Semester 2.

Mr. Andersen.



Psychology

DEPARTMENT FACULTY

Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology, Department Chairman*

Mortimer H. Appley, Ph.D., Professor of Psychology, President of the University

Robert W. Baker, Ph.D., Professor of Psychology* Roger Bibace, Ph.D., Professor of Psychology

Tamara Dembo, Ph.D., Professor of Psychology, Emeritus

Joseph H. deRivera, Ph.D., Professor of Psychology

Bernard Kaplan, Ph.D., Professor of Psychology Donald G. Stein, Ph.D., Professor of Psychology

Ina C. Uzgiris, Ph.D., Professor of Psychology

Morton Weiner, Ph.D., Professor of Psychology, Acting

Department Chairperson, 1978-79.

Leonard E. Cirillo, Ph.D., Associate Professor of Psychology William Damon, Ph.D., Associate Professor of Psychology Rachel Joffe Falmagne, Ph.D., Associate Professor of Psychology James D. Laird, Ph.D., Associate Professor of Psychology David A. Stevens, Ph.D., Associate Professor of Psychology Nicholas S. Thompson, Ph.D., Associate Professor of Psychology,

and Biology
Joseph Schmuller, Ph.D., Assistant Professor of Psychology
John A. Whiteside, Ph.D., Assistant Professor of Psychology

*On leave of absence, 1978-79,

ADJUNCT FACULTY

Edward E. Sampson, Ph.D., Professor of Sociology and Adjunct Professor of Psychology

David Zern, Ph.D., Associate Professor of Education and Adjunct Associate Professor of Psychology

AFFILIATED STAFF

D. Frank Benson, M.D., Professor of Psychology, Affiliate Donald M. Broverman, Ph.D., Professor of Psychology, Affiliate Nelson M. Butters, Ph.D., Professor of Psychology, Affiliate H.J.O. Catlin, M.B., L.R.C.G.P., Professor of Psychology, Affiliate Harold Goodglass, Ph.D., Professor of Psychology, Affiliate Davis H. Howes, Ph.D., Professor of Psychology, Affiliate Allan F. Mirsky, Ph.D., Professor of Psychology, Affiliate William Vogel, Ph.D., Professor of Psychology, Affiliate Marlene Oscar-Berman, Ph.D., Associate Professor of Psychology, Affiliate

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Shannon T. Devoe, Ph.D., Research Associate Ogretta V. McNeil, Fellow, Heinz Werner Institute Elliott Mufson, Fellow, Heinz Werner Institute Robert B. Shilkret, Ph.D., Research Associate Mary Walsh, Ph.D., Clinical Associate

UNDERGRADUATE PROGRAM

The department has emphasized in undergraduate courses

and research the same respect for scholarship as it has at the graduate level. The aims of the undergraduate program are: to promote respect for intellectual activity; to encourage an attitude of intelligent inquiry; and to highlight the implications of psychological knowledge for an understanding of everyday phenomena. The department offers educational experiences that will enhance the students' liberal arts background as well as prepare them for graduate work in psychology or related disciplines.

Course Numbers: The undergraduate course numbering system has been reorganized and simplified. Ranges of course numbers now have specific meanings according to the following key:

Meaning

100-109	Courses all majors must take (General, Quantitative
	Methods)
110-149	Survey courses; psychology as a life science
150-189	Survey courses; psychology as a social science
190-199	Special freshman and sophomore courses
200-214	Laboratory courses
215-229	Research courses
230-234	More advanced courses; psychology as a life science
234-239	More advanced courses; psychology as a social
	science
240-259	Primarily junior and senior specialized seminars (may
	not be taken for graduate credit without special
	permission)
260-289	Primarily junior, senior and graduate specialized
	seminars (may be taken for graduate credit without
	special permission)

UNLESS OTHERWISE STATED, PSYCHOLOGY 101 IS A PREREQUISITE TO ALL OTHER PSYCHOLOGY COURSES.

Special courses (honors, directed readings, research)

Major Requirements. The new expanded major in psychology, which applies to students declaring their major after September 1, 1974, consists of both psychology and related course requirements. The psychology requirements are designed to insure exposure to one of the most basic distinctions in contemporary psychology, that of psychology approached as a life or a social science: to insure some familiarity with experimental and observational methods (laboratory and practicum requirement); to provide background in essential quantitative skills (statistics requirement — Psychology 105.); and to guarantee several contacts with faculty in advanced, small-enrollment seminars.

The related requirement of two minors reflects the conviction of the department that all academic areas are actually or potentially related to psychology, but also that scholarship involves, at some point, studying subject matter in considerable depth.

1. Psychology Courses

Range

Total of at least eight full-course equivalents, including:

- a. 101. General Psychology
- b. 105. Quantitative Methods
- c. One full-course equivalent from range 110-149 or 230-234 (Survey courses: psychology as a life science)
- d. One full-course equivalent from range 150-189 or 235-239 (Survey courses: psychology as a social science)
- e. Two full-course equivalents from range 200-229 (laboratory and research courses)
- f. Two full-course equivalents from range 240-289 (upper level seminars)

2. Related Courses

Related courses are defined in terms of minors. A minor consists of at least four full-course equivalents in a single area or department. Two minors must be chosen from the following areas or departments:

Biology Chemistry

Engineering, Applied Math, or Computer Science

Education

English

Foreign Languages and Literatures (includes Linguistics)

Geography

Government and International Relations

History

Mathematics

Philosophy

Physics

Science, Technology and Science

Sociology

Visual and Performing Arts

There are two restrictions on permissible course sequences within an area or department:

- In the case where a department offers more than one introductory course, only the course or courses designed to prepare students for further work in the area may be taken for related credit. In most departments, this excludes introductory courses designed for non-majors. Detailed information about this restriction may be obtained from the Department of Psychology.
- The courses must form a coherent sequence or program within the context of the department in which a minor is taken. In most cases, this will be self-evident. However, in doubtful cases, the student must consult his or her psychology adviser and the department concerned.

The Honors Program. Honors work in psychology is available to seniors who have demonstrated high scholastic achievement and the ability to work independently in scholarly situations. Students may seek admission to the honors program by requesting the faculty member, under whose direction they intend to do research work, to submit their name to the full faculty for consideration. Students in the honors program carry out an independent empirical research project under the sponsorship of one or more faculty members. This research provides basis for a thesis which, upon completion, is presented and defended by the students before an Examining Committee of faculty members. On the basis of the report of the Examining Committee and the students' advisers for the project, the department may recommend to the College Board that the students be awarded Departmental Honors at one of the following levels: Highest Honors, High Honors, or Honors in Psychology.

Students preparing for graduate work should obtain a reading knowledge of French, German, or Russian.

GRADUATE PROGRAM

General Requirements. The department admits to graduate work only those students who plan to enroll in the Ph.D. program on a full-time basis. The overall aim of the graduate program is to provide students with a general integrated background covering the various areas of psychology. Within these emphases there are several specialized programs available.

The lack of rigid boundaries between specialty areas and the lack of carefully specified curriculum sequences require in students a continuous process of self-definition regarding the form of their graduate training. An adviser is appointed for each student, and it is expected that student and adviser will regularly review the student's progress and plans. However, our experience clearly indicates that there are persons who have difficulty tolerating the ambiguities in this kind of situation, and applicants are urged to assess themselves carefully in relation to the personal demands of such a setting. While several different traditions and points of view toward the study of psychology are represented in our department, including the behaviorist-learning orientation that is characteristic of many American universities, there is a basic emphasis at Clark on the organismicdevelopmental approach (e.g. Heinz Werner, Jean Piaget). This emphasis does not in any way prevent the free and open expression or espousal of other points of view, but it does provide a distinctive theoretical coloring that is somewhat unusual in

American psychology. In all the department's programs, including clinical and rehabilitation psychology, there is a primary concern with theory, conceptual analysis, and research. Participation in research is strongly encouraged all through the graduate experience and the nature of the research is determined primarily by a common interest of each student with that of a faculty member. The student is expected to contribute significantly to the conceptualization, design, execution, analysis, and writing-up of the work

Course Work. Students ordinarily are expected to take four courses in each semester for their first two years, including in their first year Problem, Theory & Method in Psychology (301.) and Statistical Methods (302.). In subsequent years, students continue to enroll in a full program which ordinarily includes two or three content courses, research and reading courses, etc. A total of at least 18 one-semester courses are required for admission to candidacy for the Ph.D. of which at least two must be from among a group including personality, social, developmental, phenomenological, and cognition, and at least two must be from among the group including physiological psychology, learning, perception, and animal behavior.

In order to provide a basis for evaluation of students' progress early in their career, all students are required to write two papers (or equivalent) during each of their first four semesters. except that they need not write such papers during the semester in which they complete their M.A. thesis. Papers may be required by instructors in all or none of a student's courses. In the latter case, the student is required to submit papers in a minimum of two courses. Early in the semester, before writing the paper, the student should discuss the proposed content with the instructor. In some cases, the instructor may substitute some other "evaluatable performance" (e.g., an examination), for a paper. Note that it is the student's responsibility to ensure that the instructors in at least two of his/her courses understand that she/he intends to submit these papers to them. It is the instructor's responsibility to define what constitutes an adequate fulfillment of this requirement. The student is also responsible for informing the department office before the end of the semester, what papers will be submitted and which instructor will evaluate those papers. If students have any questions they should consult the instructor or their general adviser.

Teaching apprenticeship program. All students are expected to become involved in teaching as apprentices. Since many students ultimately become college and university teachers, acquaintance with the demands and techniques of teaching over a range of courses is considered an important part of their graduate training. Ordinarily, a student might spend an average of 10 hours a week in an apprenticeship.

Qualifying examination in quantitative methods. All students are required to demonstrate competence in quantitative methods by satisfactory performance on a qualifying examination in that area. The examination is normally taken at the end of the student's first year, at the completion of the course in quantitative methods.

M.A. degree. The M.A. degree is awarded after satisfactory completion of at least eight one-semester courses or their equivalent, the departmental paper requirement, an M.A. thesis based on the collection and analysis of data, and an oral examination on the thesis. The requirements for the M.A. degree are to be completed within the first two years of graduate work and students who have not completed their M.A. degree by that time will not be permitted to enroll for the third year. A student not completing the M.A. by the end of the third year ordinarily will not be permitted to go on for the Ph.D., but will be given ample opportunity to complete the M.A. degree.

Language requirement. All students are required to demonstrate their ability to translate professional material in a foreign language. The examination will require that the student translate a relatively brief passage, in a relatively brief time, with the aid of any materials the student wishes. The foreign language requirement must be taken by the end of the first year, but there are no penalties for failure and the examination may be taken repeatedly until it is passed.

Major paper and oral examination. This paper is expected to demonstrate the student's mastery of the research and theory of his/her area of specialization. An oral examination of this material will also be held shortly after the paper has been submitted. The major paper is normally to be done within one year of completing the M.A. The student takes Directed Readings with a faculty member during the second semester of that year. If the paper is not finished on time, the faculty selects some of its members to help the student formulate a plan to finish it during the summer. If a student has still not completed the paper, she/he is not permitted to enroll for the following year so that he/she may complete this requirement.

Admission to Ph.D. candidacy: Satisfactory completion of at least 18 one-semester content courses (including 301. and 302.) as well as the above requirements, is necessary for admission to candidacy for the Ph.D. degree. All the requirements for Ph.D. candidacy, including the major paper, must be met within two years of completing the M.A. A student who does not do so will ordinarily be dropped from the Ph.D. program.

Ph.D. dissertation: The student demonstrates the ability to conduct independent research (under the supervision of a dissertation committee) by the presentation of an acceptable dissertation.

Ph.D. oral examination: Following submission of the dissertation to the department, a final oral examination is held in which the student presents and defends his/her dissertation and shows her/his competence in a general field of psychology as well as in his/her area of specialization.

These guidelines result in an upper limit of six years for completion of the Ph.D. (excluding an internship year or official leave). An additional year may also be granted by faculty approval of a petition on other grounds such as part-time study because of financial necessity. Those desiring more detail on graduate requirements and their timing should request a copy of "Information on the Graduate Program in Psychology."

Training Program in Clinical Psychology. The Clinical Psychology Training Program, which aims to provide students with competence in Clinical Psychology as an integral part of their scholarly pursuits, requires, in addition to the other usual departmental requirements, the satisfactory completion of the Clinical Methods sequence; participation in the Psychological Services Center; and completion of a year's internship in an agency approved by the department. Proficiency in Clinical Psychology is assessed through periodic review of the students' clinical work; on occasion, special examination may be required.

The goal of the Clinical Training Program is to train clinically competent psychologists who are oriented toward scholarly activity, including empirical inquiry, in whatever settings and with whatever populations they may work. At Clark, clinical students, like all other graduate students, are required to demonstrate mastery of general theoretical principles and methodologies in psychology. Within the clinical program, there are special opportunities for training:

- a) Child clinical;
- Human neuropsychology (in association with the Boston V. A. Aphasia Unit);
- Family interactions (in association with the Department of Family and Community Medicine, University of Massachusetts Medical School).

The Psychological Services Center was established in 1950 to train doctoral candidates in clinical psychology and to offer diagnostic and therapeutic services to the Clark community. Graduate students in the clinical training program participate under close supervision for four years, receiving training in psychological testing, therapy, and diagnostic interviewing. For further information, write to the director of the program, Dr. Morton Weiner.

Developmental Psychology Program: This program is designed to prepare students for a career in research, teaching, and scholarly activity in developmental psychology. The goals are to impart to students competence in the variety of methods, techniques, and formats of conceptualization involved in the

analysis of psychological development. Guided by those general aims, the developmental program provides in-depth training in special content areas such as child and infant development; perceptual development; language development; moral development; developmental psychopathology, etc. There is a nursery school associated with the University. There is also a recently constructed laboratory which provides facilities for both empirical and clinical research with children. For further information, write to the director of the program, Dr. Bernard Kaplan.

Social Psychology Program: Perhaps the most important feature of the social-personality program at Clark is its emphasis on the description and analysis of social experience. While the department is also interested in how persons behave, we have a concern for experience in its own right. We want to know how and what persons feel, think, and value, as well as how they behave. Consequently, those of us who are most directly involved in the program have developed research strategies that tap into the experiences of everyday life. Conventional experimental work in areas such as verbal and non-verbal communication, socialization, attribution processes, self-concepts, and interpersonal relations is going on in the department. Less traditional emphases include the study of phenomenology of social processes, and the ethological and genetic approaches to understanding social behavior. Uniting these diverse activities is a common concern with the theoretical and metatheoretical structures which may enable us to understand social phenomena and the philosophical bases for these conceptualizations. For further information, write to the director of the program, Dr. Joseph deRivera.

Experimental Psychology Program: Training is offered in the general areas of perception, cognitive psychology, and animal and human learning, according to a flexible sequence of courses and seminars covering the theoretical foundations, content, and methodology of these areas, as well as specialized topics. The typical orientation in teaching and research is an integrative one, preserving and exploring the connections between thesetraditionally defined areas and other areas of psychology (developmental, ethology, phenomenology, etc.). The emphasis of the program is on the acquisition of both theoretical and empirical skills. Towards this end, specialized seminars are offered in or around the areas of special interest of various faculty members: participation in ongoing research projects is encouraged, as well as research generated by students' interests. In teaching and research, the experimental faculty aims at preserving the continuity with both the mainstream of ongoing psychology research, and the values and perspective traditional to Clark, which emphasize conceptual sophistication and theoretical relevance, and discourage narrow-sightedness. The research areas currently represented in the department include thinking, reasoning, psycholinguistics, human learning and memory, cerebral hemispheric effects and linguistic information processing, animal discrimination learning and motivation, infant learning and perception, environmental perception and cognition, perceptual and aesthetic development, logical and language development, verbal and non-verbal communication. For further information write to: Dr. Rachel Joffe Falmagne.

Psychobiology Training Program: The program in psychobiology has two major foci: physiological psychology and animal behavior. Regardless of area, students are encouraged to begin research as soon as possible after acquiring an understanding of the theoretical basis of an area and the implications of the work. Students are encouraged to develop their own research techniques as well as to master traditional skills and methodologies. For more information on training in physiological psychology, write to Dr. Donald G. Stein; for more information on animal behavior, write to Dr. David A. Stevens.

Rehabilitation Research Training: In conjunction with all other areas of specialization, rehabilitation research training is available. This training is designed to prepare students for investigations of psychological problems as they occur in everyday life. Emphasis on the development of novel techniques and concepts is the main feature of the training. An integral part of the

training is an apprenticeship-practicum during which the various phases of research in real-life settings are examined under the guidance of a staff member. This training is especially pertinent to those who are interested in social-emotional and value problems of handicapped and non-handicapped people. For further information, write to Dr. Tamara Dembo.

Interdisciplinary Work: The department recognizes the interest of some students to undertake study and research which cuts across disciplines or areas that now exist. Interdisciplinary activity by students is feasible at Clark inasmuch as some members of the Psychology faculty are now, or recently have been, engaged in activities with faculty of other departments.

Applicants for graduate study in psychology, who are interested in securing more detailed information concerning the department and its programs, are urged to write to the department for a brochure, "Information on the Graduate Program in Psychology."

THE HEINZ WERNER INSTITUTE OF DEVELOPMENTAL PSYCHOLOGY

Associated with the department is the Heinz Werner Institute of Developmental Psychology, which has three aims: first, to integrate various research programs dealing with developmental problems; second, to bring to Clark University scholars, teachers, and research workers from disciplines for which developmental problems are pertinent such as anthropology, biology, and certain areas of medicine; third, to train research workers on post-doctoral levels in the comparative-developmental approach to behavior. Information regarding post-doctoral work at the Institute may be obtained by writing to Dr. Bernard Kaplan.

COURSES

101. GENERAL PSYCHOLOGY.

This is an introduction to the principles of human behavior. No prerequisite. Unless otherwise noted, this course is a prerequisite to all other psychology offerings.

Full course, Semester 1. Full course, Semester 2.

Mr. Stevens.

105. QUANTITATIVE METHODS.

The theory of experimental inference and the logic of experimental design is studied.

Full course, Semester 1. Full course, Semester 2. Ms. Joffe Falmagne. Mr. Schmuller.

130. PSYCHOLOGY OF LEARNING.

Methods and findings in the study of learning are discussed, with emphasis on their relation to theories of learning. Selected controversial issues are examined.

Full course, Semester 2.

Mr. Stevens.

140. SENSATION AND PERCEPTION.

This is an introductory course that includes exposure to the basic concepts of sensory physiology and sensory processes. Emphasis is on auditory and visual perception, but all six major senses are considered. The course is aimed at providing a solid background in this, the oldest area of experimental psychology, but also deals with such topics as the relation between perception and aesthetics (both of the everyday and concert-hall variety), and the development and subsequent degeneration of sensory and perceptual capabilities that occur between birth and death. Full course, Semester 1.

150. INTRODUCTION TO CHILD PSYCHOLOGY.

The development of intellectual and social functioning in the child will be discussed. Theoretical approaches to conceptualizing change in the developing child will be emphasized: psychoanalytic, Piagetian, and behavioristic approaches will be contrasted.

Full course, Semester 1.

Ms. Uzgiris.

162. PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR.

Psychoanalytic contribution to the understanding of human behavior and conflicts will be studied. The class is limited to 40 students. Prerequisite: permission of instructor.

Full course, Semesters 1, 2.

Mr. Bibace.

169. THE PSYCHOLOGY OF LOVE AND HATE.

Not offered, 1978-79. This is an examination of how the emotions of love and hate are manifested in infancy, childhood, adult life, and in social-collective phenomena. The course will deal with related emotions such as envy, greed, jealousy, despair, etc. Prerequisite: permission of instructor.

Full course.

Mr. Kaplan.

170. INTRODUCTION TO SOCIAL PSYCHOLOGY.

This is an examination of the relationship between the individual and the social system as understood through the theories, methods, findings, and applications of social psychology. See also Sociology 105. The class is limited to 40 students.

Full course, Semesters 1, 2.

Mr. Sampson.

172. PSYCHOLOGY OF PERSONALITY.

Full course. Semester 2.

Full course, Semesters 1, 2.

Consideration of various theoretical approaches, including psychoanalytic, behaviorist, and self theories, and of research work in areas such as anxiety, stress, unconscious processes, emotion, and motivation will be examined.

Full course, Semester 1.

Mr. Laird.

173. INTERPRETATION OF BEHAVIORS TRADITIONALLY SUBSUMED BY "ABNORMAL PSYCHOLOGY."

The course will deal with the interpretation of some behaviors usually subsumed by "Abnormal Psychology." Behaviors such as schizophrenia, depression, hysteria, obsession, and anti-social personality will be examined. The goal is to articulate multiple theoretical and relational perspectives regarding what is referred to as "abnormal"; assumptions regarding how "abnormality" comes about; methods of treatment and the assumptions which lie behind them. Students participate in the clinician's "world of action." Students observe, describe, interpret, and prescribe courses of action for sample "cases" which fall within various "abnormal categories." Prerequisite: Psychology 172; permission of instructor.

184. PHENOMENOLOGICAL PSYCHOLOGY.

The description and analysis of experience, particulary emotional experience, will be studied. We search for ways to share our personal experience of the world and to arrive at the essential structures of experience. In this endeavor, we consider behavior as an independent rather than a dependent variable. Therefore, rather than searching for the determinants of behavior, we consider the choices that confront us and attempt to determine the psychological consequences that necessarily follow from any given choice. Prerequisite: Psychology 101.

Full course, Semester 1.

Mr. de Rivera.

191. HISTORY OF PSYCHOLOGY.

The historical development of theories and methods of psychology will be studied. The class is limited to 50 students.
Full course, Semesters 1, 2.

Mr. Kaplan.

193. INTERPRETATION OF DREAMS. Not offered, 1978-79. This is a course dealing with the exposition, application, and critical evaluation of various systems of dream interpretation. Included will be the systems of Freud, Jung, Stekel, Boss (phenomenological), May (existentialist), Erikson, Gestalt therapists (e.g. Perls), and others. Problems of "validity of interpretation" will be discussed, and the relation of dream interpretation to the interpretation of other "products of the imagination" will be examined. This course is accessible to

Mr. Cirillo.

Mr. Bibace.

students, freshmen to seniors. The is a limited enrollment, Prerequisite: permission of instructor.

Full course. Mr. Kaplan.

194. THE PSYCHOLOGY OF PLAY. Not offered, 1978-79,

The psychological significance of play in the life of the individual will be explored. Special emphasis will include symbolic play, the development of play from childhood to adulthood, and the relation between individual and social play. Comparative analyses will consider the function of play in non-human as well as the human species. Psychology 101 is not a prerequisite for this course. The class is limited to 20 freshmen and sophomores.

Full course. Mr. Damon.

195. INTRODUCTION TO ETHOLOGY.

The course will explore the development of social behavior in the individual animal and its evolution in the species. Special attention will be paid to the concept "instinct", to the issues of biological determinism, and to the behavior of non-human primates. The course is designed for freshmen; Psychology 101, is not a prerequisite for this course.

Full course, Semester 1.

Mr. Thompson.

200. LABORATORY IN ETHOLOGY.

The members of the class will participate in research projects on the behavioral biology of a variety of species, mostly birds. The members will work in small teams each of which is devoted to the study of a single species. Bird species available for study include bluejays, red wing black birds, song sparrows, towees, robins, barn swallows, orioles, bobolinks, phoebes, crows, cardinals, and others. Non-bird species include wasps, frogs, dairy cattle, etc. The laboratory is conducted at the instructor's farm in New Braintree. Transportation to the farm may be provided at a nominal extra cost. Students must provide their own binoculars. The enrollment is limited. Admission is by negotiation. Full course, Modular Term. Mr. Thompson.

201. LABORATORY IN SOCIAL PSYCHOLOGY.

This laboratory focuses on the behavior of small groups. Participation in this laboratory includes chairing one of the discussion groups in Psychology 184. The lab is limited to 20 students. Prerequisites: Psychology 170., 105. Full course, Semester 2. Mr. Laird

202. LABORATORY IN CHILD RESEARCH.

This is an introduction to methods used in the study of child thought and behavior. Students will conduct research projects involving observational, experimental, and interviewing techniques. Discussions will consider means of data analysis as well as data collection. Prerequisite: Psychology 105. The lab is limited to 16 students.

Full course, Semesters 1, 2,

Mr. Damon.

203. LABORATORY IN LANGUAGE AND COGNITION.

Experimental studies will be considered in the area of reasoning, and language comprehension, concept learning, and memory. The course is aimed at familiarizing the students with the methods used in cognitive psychology, the range of problems studied, and the theoretical concepts used to interpret experiments. Skills in experimental design, statistical analysis, reading and summarizing scientific journal articles, and scientific writing will be acquired in the context of conducting two or three closely supervised experimental projects and one more independent project. Prerequisite: Psychology 105.

Full course, Semester 1 Full course, Semester 2

Mr. Schmuller. Ms. Joffe Falmagne,

204. LABORATORY IN LEARNING.

Not offered, 1978-79. The course is designed to familiarize students with research methods and experimental designs used in investigations of theories of learning and learning phenomena, with both human and

animal subjects. The lab is limited to 20 students. Prerequisites: Psychology 105., 130. Full course. Mr. Stevens

206. LABORATORY IN PERSONALITY.

The issues and problems in psychological research in general and in the personality area in particular are examined, the problems being exemplified in studies developed and performed by the class group and by individuals. Experiments may be in any of the conventional areas of personality research, such areas as perceptual defense, motives and performance, self perception, experimenter influence, and emotions. Prerequisites: Psychology 172., 105., permission of instructor. Full course, Semester 1, Modular Term. Mr. Laird.

207. LABORATORY IN PERCEPTION.

This course stresses mastery of experimental skills and scientific writing in the context of the investigation of sensory and perceptual phenomena in a variety of sense modalities. Prerequisites: Psychology 105 and permission of instructor. Full course, Semester 1. Mr. Whiteside

208. LABORATORY IN CHILD PSYCHOLOGY.

Not offered, 1978-79. This is an introduction to research methods employed in the study of child behavior through participation in studies carried out by the class, with particular emphasis on experimental designs currently used in the field. Related theoretical and methodological issues will be discussed with the aim of placing the experimental study of child behavior within the study of development. Prerequisites: Psychology 105., 150.

Full course. Ms. Uzgiris.

210. LABORATORY IN PHENOMENOLOGY.

This laboratory is designed to acquaint students with the method of "conceptual encounter" - a type of phenomenology that is useful in exploring the structure of emotional experience. Prerequisite: Psychology 184. or a philosophy course in phenomenology.

Full course, Semester 2.

Mr. de Rivera.

211. FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING.

The illustration of various cognitive and social-interpersonal models of human behavior in the classroom setting will be observed. Special consideration will be given to the work of Freud, Piaget, Skinner, Wertheimer, Lewis, and F. Kluckhohn. Students will carry out field observations, and formulate and execute their own individual projects. See also Education 211. Prerequisites: Psychology 105., permission of instructor. Full course, Semester 2. Mr. Zern.

212. LABORATORY IN SYMBOLISM.

Students will investigate empirically how individuals interpret concrete things and events so that they convey broader meanings, e.g., using visual imagery to represent abstract ideas, using language metaphorically to see things from a new viewpoint, using colors or lines to express emotions. Organismic-developmental theory will guide the systematic collection and analysis of qualitative data and the write-up of reports. Prerequisite: Psychology 105..

Full course, Semester 1.

Mr. Cirillo.

213. LABORATORY IN INTERPERSONAL RELATIONS.

Interviewing in the area of interpersonal relations with emphasis on value possessions, value transmissions, and value losses will be examined. Prerequisite: permission of instructor; corequisite: Psychology 286. The lab is limited to 20 students. Full course, Semester 2. Ms. Dembo.

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214. LABORATORY IN REHABILITATION.

In this laboratory stress is placed on interview technique in the study of rehabilitation issues. Prerequisite: permission of instructor; corequisite: Psychology 253. The lab is limited to 20 students.

Full course, Semester 1.

Ms. Dembo.

215. RESEARCH IN EMOTION AND MOTIVATION.

Students, working in close collaboration with the instructor, will design, conduct, and present a piece of research that investigates an emotional or motivational phenomenon. Prerequisites:

Psychology 184. or Psychology 285., and permission of instructor.

Full course, Semester 1.

Mr. de Rivera.

216. RESEARCH IN EARLY SOCIAL DEVELOPMENT.

Students will participate in an on-going research program focusing on the development of social and moral conceptions in young children. Weekly meetings will discuss study design, data analysis, and methods of data collection. Students will read and discuss relevant socialization literature, and will participate in the construction and execution of research projects. Prerequisites: Psychology 202. or 208., permission of instructor.

Full course, Semester 2.

Mr. Damon.

217. RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD.

With roots in Piaget's theorizing, a constructivist-interactionist approach to the study of development in infancy and early childhood will be exemplified through the findings and problems from on-going research projects. Students will formulate pertinent studies, participate in their execution, and prepare papers describing their work. Prerequisite: permission of instructor. Full course, Semesters 1, 2.

Ms. Uzgiris.

218. RESEARCH IN ANIMAL BEHAVIOR: ETHOLOGY.

This course has weekly meetings in which research literature of interest to the group is reviewed, and participants' research projects are designed and evaluated. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Thompson.

219. RESEARCH IN BRAIN DAMAGE AND BEHAVIOR.

This is a course that lasts at least one academic year and is open to anyone who has the high level of motivation and intellectual curiosity necessary to develop and carry out an intensive program of research on the relationship between brain function and the organization of behavior. Essentially, the course takes the form of a "tutorial" in which there is a very close working relationship between students, the professor, and the graduate students working in the laboratory. There is active involvement in all phases of research, including searching available literature, planning and design of experiments, all surgical and histological procedures, data analyses, and final preparation of the material for presentation (by the students) at scientific meetings or publication. It must be emphasized that while solid grasp of experimental techniques is necessary, the development of conceptual and theoretical skills is given first priority. Enrollment is strictly limited and is by invitation of the instructor. Prerequisites: High academic standing, biological or experimental background desirable but not essential.

Full course, Semesters 1, 2.

Mr. Stein.

220. RESEARCH IN LEARNING AND MOTIVATION.

Students will participate in the design, conduct, and interpretation of experimental research on problems in animal discrimination learning and motivation. Prerequisite: permission of instructor.

Full course, Semesters 1, 2.

Mr. Stevens.

221. RESEARCH IN SOCIAL PSYCHOLOGY.

Students will participate in the design, execution, analysis, and interpretation of research on self-awareness and self-knowledge, including areas of emotions, attitudes and abilities. Prerequisites:

previous courses in social psychology, statistics, and at least one laboratory course, permission of instructor.

Full course, Semesters 1, 2.

Mr. Laird.

222. RESEARCH IN HUMAN COGNITION.

The information processing approach is applied to such problems as attention, memory, visual and auditory cognition. Projects might include: (1) studies of semantic memory; (2) hemispheric differences in metacontrast; and (3) multi-dimensional scaling analysis of memory uncoding. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Schmuller.

223. RESEARCH IN VERBAL AND NONVERBAL COMMUNICATION.

This course reviews some of the issues and methodologies used in investigations of communication, verbal and nonverbal. Each student is helped to formulate a research plan.

Full course, Modular Term.

Mr. Wiener.

227. RESEARCH IN REASONING IN CHILDREN AND ADULTS.

Each undergraduate student will conduct a research project in the area of reasoning and logical development in close collaboration with the instructor and possibly a graduate student doing research in that area. The course is designed to provide the student with the relevant bibliographical background and methodological principles as well as the full experience of conducting one entire piece of research. Introductory sessions will consist of a survey of the area and an outline of several specific research projects, concerning deductive abilities in children and adults; learning of logical rules; logical aspects and other aspects of language comprehension. The student is not required to demonstrate creativity at this initial point of generating a question, but rather the assumption is that creativity develops gradually through experience of the present sort and one of the aims of the course is to help the student develop this ability to formulate research questions. However, personal ideas and suggestions, when present, will be welcome and encouraged. Prerequisites: Psychology 105, permission of instructor.

Full course. Modular Term.

Ms. Joffe Falmagne.

228. RESEARCH ON DEVELOPMENTAL ASPECTS OF TRANSACTIONS OF PERSONS-IN-ENVIRONMENT.

Not offered, 1978-79.

Theory, findings, and research problems deriving from an on-going research program — an organismic-developmental systems approach to the analysis of transactions of persons-inenvironments — will be discussed. Empirical studies on problems relevant to the research program will be formulated and conducted by individual students. Papers describing the research project will be prepared. Prerequisites: Psychology 105., permission of instructor.

Full course.

Mr. Wapner.

230. THE PHYSIOLOGY OF BEHAVIOR.

This is a survey of current problems of physiological psychology including theories of brain function. Emphasis will be placed on the underlying physiological mechanisms which mediate human behavior, i.e., motivation, emotion, learning, perception, and memory. The course is constructed on a systems approach, designed to demonstrate the complex and interdependent relationship of the body and brain to behavior.

Full course, Semester 1.

Mr. Stein.

231. COGNITIVE DEVELOPMENT.

Not offered, 1978-79.

The course critically surveys empirical findings and selected theoretical viewpoints (especially Piaget's) in the areas of perceptual development, development of scientific concepts, of logic, and of language. The relations between cognitive development and, respectively, language, and culture are examined and discussed in connection with the theories surveyed.

Active participation from students is encouraged. Prerequisite: permission of instructor.

Full course.

Ms. Joffe Falmagne.

Not offered, 1978-79. 232. COGNITIVE PSYCHOLOGY.

This is an introduction to the human information processing approach, and a comparison with other approaches to the study of psychological phenomena. There will be an examination of work in visual and auditory cognition from the information processing viewpoint; this will include a consideration of issues in attention, memory, and language. Recent findings in the field of problemsolving will also be discussed. Students will be required to do at least one project, either a theoretical paper or a literature review. Prerequisite: permission of instructor. Enrollment is limited to 20 students Full course. Mr. Schmuller.

240. DEVELOPMENTAL APPROACHES TO BEHAVIOR.

This is a critical examination of presuppositions, methods, concepts, and empirical inquiries of those concerned with the development of behavioral systems. Implications of developmental conceptualization for all of the life sciences will be discussed Psychological theories of Freud, Piaget, and Werner will be given special emphasis. Prerequisite: permission of instructor. Full course, Semester 1. Mr. Kaplan.

241. SEMINAR IN INDIVIDUAL DIFFERENCES IN COGNITIVE FUNCTIONING. Not offered, 1978-79.

This is an examination of the evidence for and explanation of individual differences in cognitive functioning and personality. Particular attention is given to the role of socio-cultural factors in cognitive functioning. Prerequisite: permission of instructor. Full course.

242. PSYCHOLOGY OF LANGUAGE.

Not offered, 1978-79. A social-psychological and anthropological analysis of the various functions of language will deal with language in everyday life, in poetry, in dreams in social movements, etc. Also considered will be various philosophical views of language and the relations between language and thought. Prerequisite: permission of instructor. There is a limited enrollment. **Full course** Mr. Kaplan.

243. HUMANISTIC PSYCHOLOGY AND SOCIAL CHANGE.

Not offered, 1978-79.

Persons who are committed to radical change tend to focus either on social change or on personal-spiritual growth. Dealing both with the literature on Marxist theory and the history of social change and with Humanistic psychology and the history of religion, this course will examine the thesis that any change that is a development (and not just a change) necessarily involves both social and spiritual revolution. To test our concepts about change, the group that constitutes this class will be involved in a socialaction project in the Worcester Community. Full course. Mr. de Rivera.

244. SEMINAR IN MOTIVATION.

The concept of motivation will be examined. Several theoretical models will be discussed, including those of psychoanalytic, ethological and learning theories. Full course, Modular Term. Mr. Stevens.

245. DEVELOPMENT IN INFANCY.

Current research on human infants will be examined with emphasis on relations between functioning during this period and later in ontogenesis. A view of the child as an organized adaptive system will be emphasized. Topics to be considered include learning, intellectual functioning, social relationships with others, and the beginnings of language. Some consideration will be given to deviations from normal development. Prerequisite: permission of instructor

Full course, Semester 2

Ms. Uzgiris.

246. PRINCIPLES OF BEHAVIORAL **EVOLUTION I: FUNDAMENTALS.**

The genetic, ontogenetic, population, and social mechanisms underlying the evolution of behavior. Prerequisite: permission of instructor, Introductory Biology or Psychology normally required. but open to freshmen with special qualifications by negotiation with instructor.

Full course, Semester 1.

Mr. Thompson.

247. SOCIAL DEVELOPMENT FROM INFANCY THROUGH ADOLESCENCE.

This is an examination of theories and research dealing with the process of socialization in the first two decades of life. Topics to be emphasized include: attachment, imitation, role taking, and the development of social identity.

Full course, Semester 2.

Mr. Damon.

248. CONCEPTS IN THEORIES OF PERSONALITY -NORMAL AND ABNORMAL. Not offered, 1978-79.

This course is a consideration and critical analysis of: (1) concepts and issues in theories of personality, and (2) concepts used to account for deviant behavior. Prerequisites: Psychology 172., 173. Full course.

249. PSYCHOLOGY OF DEATH.

Not offered, 1978-79. Beliefs and actions regarding death in diverse social contexts and cultures. Prerequisite: permission of instructor.

Full course.

Mr. Bibace.

250. COMMUNICATION: VERBAL AND NONVERBAL.

This course deals with: (1) An analysis of the term communication and (2) a study of the varieties of communication patterns for different populations. Full course, Semester 2. Mr. Wiener.

251. CURRENT CONCEPTS IN MENTAL HEALTH: THEORY AND PRACTICUM.

The course meets three days a week at Worcester State Hospital during which time students attend a lecture series on various facets of mental health care given by hospital personnel. In addition, students are assigned to wards in order to observe directly the operation of this hospital and to talk with staff and patients. All work by students is supervised by pre-doctoral psychology interns. A paper is required. Prerequisite: Abnormal Psychology 173.

Full course, Modular Term.

Mr. Peterson.

252. PRINCIPLES OF BEHAVIORAL **EVOLUTION II: APPLICATIONS.**

The description and explanation of selected animal social systems including some insects, birds, and primates will be studied. This course is designed to follow Psychology 246., but may be taken first by permission of instructor. Full course, Semester 2. Mr. Thompson.

261. HUMAN NEUROPSYCHOLOGY.

Beginning with the neurological basis of behavior and neurobehavioral abnormalities, the field of cortical function is surveyed from the clinical, theoretical, and experimental viewpoints. Topics covered include aphasia, cerebral dominance, memory and its disorders, organic disorders of perception and emotions; methods used in clinical, and experimental study. Full course, Semesters 1, 2. Ms. Kaplan, Mr. Alexander, Mr. Bear, Ms. Oscar-Berman, Mr. Benson, Mr. Butters,

Mr. Goodglass, Mr. Howes, Mr. Mirsky,

Mr. Rosenfield, Mr. Zurif.

262. INFORMATION PROCESSING - MEMORY AND PERCEPTION.

Not offered, 1978-79. Models of normal information processing and their application to neurologically impaired perceptual and mnemonic processes will be reviewed. An attempt will be made to show how different

neurological disorders represent failures at distinctive stages of information processing. Clinical materials related to visual object agnosia, constructional apraxia, and various amnesic states will be presented and discussed in detail. Emphasis will be placed upon a critical examination of the theoretical and experimental investigations of Luria, Teuber, Talland, and Milner.

Full course.

Ms. Oscar-Berman, Mr. Butters, Mr. Cermak.

263. SEMINAR IN VISUAL AND AUDITORY PERCEPTION.

This course deals with the history of empiricist theories of perception and with the current status of theories and of empirical knowledge in selected areas. Topics include: eye movements and vision, visual illusions, attention; and perception and art. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Whiteside.

264. SELECTED PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY: HISTORY AND EVOLUTION OF IDEAS IN BRAIN FUNCTION AND BEHAVIOR.

This is a seminar course which will discuss the evolution of the concepts of brain function and structure beginning with Ancient Greek and Middle Eastern notions of the mind-body problem and ending with current concepts and models based on mathematical and holographic metaphors. The issue of localization of function in the brain and the evolution of thinking about this problem will serve as the underlying theme for organizing the topic. Other related issues such as: reductionism, emergence, psychophysical parallelism and determinism will also be discussed and evaluated. Open to advanced undergraduates and graduate students. Prerequisites: at least a course in undergraduate physiological psychology or its equivalent; permission of instructor. All students will be expected to present a seminar and lead a critical and evaluative discussion of the materials they present. A major critical and evaluative paper on the topic of their choice must be submitted by the end of the semester to obtain credit for this course. Offered in alternate years. Full course, Semester 2.

265. INFORMATION PROCESSING - NEUROLINGUISTICS.

The phenomena of aphasia, alexia, and associated disorders of language will be considered in relation to theories of the storage and processing of verbal information. Relevant models dealing with phonology, word selection, syntax, and semantics will be discussed. Attention will be given to the special problems of using psychological theories based on experimental data from normal subjects to account for findings with brain-damaged patients.

Full course, Semester 1.

Mr. Howes, Mr. Zurif.

266. CEREBRAL DOMINANCE SEMINAR.

The distinctive roles of the left and right hemispheres in man will be reviewed, first by examining alterations in language and nonverbal behavior under conditions of unilateral brain damage and section of the corpus collosum. A second approach will involve the examination of techniques used to investigate hemispherical functional asymmetry in the normally intact brain. Special attention will be devoted to hemispheric asymmetry in relation to different levels of language processing.

Full course, Semester 2.

Mr. Goodglass, Mr. Rosen, Mr. Zurif.

268. PSYCHOLINGUISTICS. Not offered, 1978-79.

The course is intended for graduate students and advanced undergraduates with a solid formal background. The first part of the course will consist in a systematic introduction to linguistics (generative transformational grammar, semantics). The second part will be a survey of selected empirical work in psycholinguistics, aimed at providing familiarity with the literature, issues, and bibliographical sources, and at identifying and formulating new or continuing empirical questions. The course will be conducted as a workshop, in which the sequence of readings and topics will ensure a systematic progression through the material and each student will have primary responsibility for the formal presentation of part of the material on one session. A

supplementary reading list will be provided at the end of the course, the aim of the course is to enable students to continue reading on their own in the area after this introductory background. Prerequisite: permission of instructor. The course is limited to 10 students.

Ms. Joffe Falmagne.

270. SEMINAR — ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.

This is an intensive treatment of selected areas in social psychological research and theory, including consistency theories in attitude formation and in interpersonal perception; attribution theory in self-perception; social/situational determinants of normal, everyday behavior and of anti-social behaviors such as violence, criminality, and riots. Ordinarily limited to senior majors in psychology or sociology. Prerequisite: permission of instructor. Full course, Semester 2.

Mr. Laird.

272. CONCEPTS IN LEARNING THEORY. Not offered, 1978-79. Some persistent problems in the field of learning are examined. Examples of such problems are the question of the universality of laws of learning, differentiating between non-associative (motivational) and associative factors, and species differences. Psychology 130. provides desirable preparation for this course. Full course.

274. SEMINAR IN REHABILITATION.

Psychological problems in everyday life situations, such as problems of the physically disabled, mentally retarded, the aged, the poor, etc. will serve as topics. The primary focus is on interpersonal relations and their importance for environmental changes. The seminar is limited to 20 students. Prerequisite: permission of instructor; corequisite: Psychology 214.

Full course, Semester 1.

Ms. Dembo.

276. SYMBOLISM IN EVERYDAY LIFE: LANGUAGE, DREAMS, MYTHS, LITERATURE AND SCIENCE.

This is a critical examination of various theories of symbolformation with special emphasis on the origins, structure, and functions of dreams and myths. The relation of dream formation to psychopathology and the recent work on the physiological bases of dreaming will also be discussed. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Kaplan.

279. COMPUTER APPLICATIONS IN PSYCHOLOGY.

Most computer courses deal with the computer's ability to analyze large quantities of data. This course will stress the use of computers in on-line applications such as acquiring data and running experiments. Students will learn the machine and assembly languages used by the department's PDP-12 laboratory computer. The major course responsibility will involve writing a substantial program that would make possible the completion of a research project (in the student's area of interest) that would be difficult or impossible to undertake without the use of a computer. No previous background in computer languages is assumed. The course is not recommended for those who have taken Computer Science 140. Prerequisite: Psychology 105.

Full course. Semester 2.

Mr. Whiteside.

285. FIELD THEORETIC APPROACH TO ACTION AND EMOTION.

The basic motivational dynamics that underlie willed action appear to differ from the dynamics underlying emotion. After a close examination of the field theory of action and emotion and of the structural theory of emotion, we will attempt to construct a theory that can relate action and emotion as we experience them. Prequisite: permission of instructor.

Full course, Semester 2.

Mr. de Rivera.

286. SEMINAR IN INTERPERSONAL RELATIONS.Value problems pertaining to interpersonal relations will be

discussed, including value possessions, value losses, regaining of values, and adjustment to value losses. The seminar is limited to 20 students. Prerequisite: permission of instructor; corequisite: Psychology 213.

Full course, Semester 2.

Ms. Dembo.

288. LOGICAL REASONING IN ADULTS AND CHILDREN.

Not offered, 1978-79.

The course will cover in depth the current empirical findings and theoretical developments in the areas of propositional reasoning, syllogistic reasoning, and transitive inference in children and adults. Issues related to the notions of mode of representation and of logical competence will be given particular attention, and connections with the adjacent area of psycholinguistics will be discussed. The research and models concerning reasoning in children and reasoning in adults respectively, will be presented from a common perspective, and the contrasts and connections with the Piagetian perspective will be indicated. Prerequisites: Psychology 231. or 268., permission of instructor.

Ms. Joffe Falmagne.

289. PSYCHOLOGY FROM THE VIEWPOINT OF AN ORGANISMIC-DEVELOPMENTALIST.

Not offered.

ORGANISMIC-DEVELOPMENTALIST. Not offered, 1978-79. This is a systematic, integrated overview of the field of psychology. Using organismic-developmental theory as an integrating framework, paradigmatic problems and methods in psychology will be surveyed with a major focus on the interrelationship of assumptions, hypotheses, and empirical findings in each area. A variety of phenomena of central interest to psychologists will be treated utilizing such concepts as levels of organization, personenvironment systems, structure-function relationships. The course will be conducted in seminar fashion, and students will be expected to participate actively by analyzing relevant empirical work, giving presentations, etc. Prerequisite: permission of instructor.

Full course. Mr. Wapner.

296. DIRECTED RESEARCH IN PSYCHOLOGY.

This is an independent study for qualified students not in the honors program. Prerequisite: permission of department chairperson.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

297. DIRECTED READINGS IN PSYCHOLOGY.

This is independent study for qualified students not in the honors program. Prerequisite: permission of department chairperson.

Variable credit, Semesters 1, 2, Modular Term.

Staff.

298. SUPERVISED PRACTICUM AND DIRECTED READINGS IN USE OF PSYCHOLOGICAL KNOWLEDGE AND METHODS IN PRACTICAL SETTINGS.

Experience in practical settings in work related to the subject matter of psychology, with appropriate directed readings. The practical activity must be an extension, embodiment or illustration in some significant way of psychology courses taken previously. Must be sponsored and supervised by a member of the Clark psychology faculty who will be responsible for evaluating the student's work through examination, term paper, or oral presentation. This may be taken for one course credit and may substitute for one of the two required upper-level seminars (in the 240-289 range) unless one of the courses offered in satisfaction of that requirement is Psychology 251. Current Concepts in Mental Health. Enrollment must be approved by course coordinator. Full course, Semesters 1, 2, Modular Term.

299. HONORS IN PSYCHOLOGY: SENIOR YEAR.

Students will carry out a research project under the direction of a member of the staff.

Variable credit, Semesters 1, 2, Modular Term. Staff.

300. PRO-SEMINAR — DEVELOPMENTAL PSYCHOLOGY.

A seminar devoted to the presentation and critique of different

developmental approaches to the individual and his/her ways of functioning in the world. Among the approaches considered are: (1) organismic-developmental; (2) Piagetian; (3) Soviet approaches to psychology and (4) Freudian and neo-Freudian. The aim of the seminar is to acquaint the participants with sympathetic expositions of diverse points of view and the application of these viewpoints to empirical inquiry. It will thus provide a basis for subsequent discussions in other seminars of the various ways of dealing with substantive issues (e.g., learning, moral action and moral judgment, language behavior, the processes of thinking). Several faculty members and advanced graduate students will participate in conducting the seminar.

Full course, Semester 1. Full course, Semester 2.

Mr. Damon, Ms. Uzgiris. Ms. Falmagne, Mr. Kaplan.

301. PROBLEM, THEORY AND METHOD IN PSYCHOLOGY.

During the first half of semester one, the faculty will present their own research with an emphasis on the special features of methodology they employ, including the links between method, theory, problems, and findings. During the second half of semester one, and semester two, there will be informal ad hoc individual or group meetings in which students will present proposals for their M.A. theses. At the end of the second semester, students will submit written reports which cover the status of the students' research.

Full course, Semesters 1, 2.

Mr. Wiener.

302. STATISTICAL METHODS.

During semester one, the theoretical foundations of inferential statistics are discussed. Topics include probability, sampling distributions, and hypothesis testing. The second semester, is concerned with complex analysis of variance designs and regression. Also, students learn to use the statistical package on the university computer.

Full course, Semesters 1, 2.

Mr. Schmuller.

303. PROSEMINAR IN EXPERIMENTAL PSYCHOLOGY.

Not offered, 1978-79.

This is an introduction to psychophysics, sensory processes, theories of perception, theories of learning, memory, language, information processing, higher mental processes, including the biological bases thereof. This seminar is designed to give students basic concepts in classical and contemporary psychology and to survey the theories, major findings and contemporary issues in those areas. Several faculty members will conduct the class, each being responsible for the section of the course in her/his area of specialization.

Full course.

Ms. Joffe Falmagne, Mr. Schmuller, Mr. Stein, Mr. Stevens, Mr. Whiteside, Mr. Wiener,

304. FORMAL MODELS FOR PSYCHOLOGY.

Not offered, 1978-79. This is an introduction to formal methods and models applicable to psychological theorizing. The aim of the course is to familiarize students with methods and formal ways of thinking, that are of wide applicability across content areas, to indicate how various theoretical or empirical questions can be formalized in those terms, and to equip students with the sources and further readings that will enable them to pursue those topics further on their own. The topics covered in the first segment of the course will include sets and relations, groups, lattices, fuzzy sets, formal grammars and automata, and Markov chains. Illustrative applications of those methods to various content areas will be presented and worked out. The second segment of the course will deal with psychological measurement. Topics to be discussed include foundations of psychological measurement, Thurstonian scaling,

factor analysis, and current multidimensional scaling techniques.

Students will use each of these measurement models to analyze

sample data.

Full course.

Ms. Joffe Falmagne, Mr. Schmuller.

305. BASIC PSYCHOLOGICAL PROCESSES IN SOCIAL-PERSONALITY.

This is an examination of important processes in social-personality psychology. Topics include processes in motivation, attribution and evaluation, group formation and development, in the interactions between individual dynamics and cultural institutions. Mr. deRivera, Mr. Laird. Full course, Semester 1.

308. RESEARCH PROBLEMS IN PHYSIOLOGICAL

PSYCHOLOGY. Not offered, 1978-79. This is an advanced course in research methodology including surgical and stereotaxic techniques, histology, EEG recording and analysis, and general methods for animal care. Prerequisite: permission of instructor. Full course.

Mr. Stein.

311(a). CLINICAL METHODS I.

This is an introduction to psychometric and projective assessment. Full course, Semester 1. Ms. Kellett.

311(b), CLINICAL METHODS I.

This is a clinical interpretation of representational behavior in projective tests and interviews from a cognitive and developmental viewpoint. Mr. Cirillo.

First half, Semester 2.

311(c). CLINICAL METHODS I.

This is a clinical seminar in neuropsychological assessment. Second half, Semester 2, Modular Term. Ms. Kaplan, Mr. Goodglass.

312, PSYCHOPATHOLOGY.

This is an introduction to psychopathology: directly through naturalistic observation and interviews with seriously disturbed individuals; indirectly through clinical and experimental reports related to description and explanation of psychology. A paper on some specific psychopathological phenomenon (e.g., delusions, hallucinations) will be required.

Mr. Bibace. Full course, Semester 2.

314. TOPICS IN PERCEPTION.

Not offered, 1978-79.

Selected issues in sensory processes, perception, perceptual development, and theories of perception will be considered. Special attention will be given to findings and perspectives that relate to more than one sense modality.

Mr. Whiteside. Full course.

315. ADVANCED CHILD PSYCHOLOGY. Not offered, 1978-79. Discussion of conceptions and current research pertaining to some questions in the general area of human development in the early childhood years, such as imitation-identification, exploration and play, temporal organization of actions, etc. will be considered. Full course. Ms. Uzgiris.

317. BEHAVIOR IN INFANCY.

Not offered, 1978-79.

The seminar will proceed from an examination of the capacities for functioning in the neonate to a consideration of the changes in those capacities during ontogenesis with a view toward understanding the infant's organization of its functioning in the world

Ms. Uzgiris. Full course.

319. ADVANCED SEMINAR ON ORGANISMIC-**DEVELOPMENTAL APPROACHES TO BEHAVIOR.**

Not offered, 1978-79.

The basic categories of the organismic-developmental approach to life sciences, with examination of the application of these categories to a wide range of problem areas in psychology will be studied.

Mr. Kaplan.

320. ADVANCED SEMINAR IN GENETIC-STRUCTURAL Not offered, 1978-79. THEORIES.

In this seminar, the major categories of all genetic-structural

developmental theories (Freud, Werner, Piaget, et al) and the concepts and methodologies specific to different theories will be thoroughly examined and critically analyzed. This is an ongoing seminar comprised of advanced graduate students and including interested faculty. The seminar deals with the systematic roles of such concepts as "development," "structure," "regression," "system," "stage." etc.

Full course. Mr. Kaplan.

322. PSYCHOLOGY OF LEARNING. Not offered, 1978-79. Theoretical viewpoints and experiments in the field of learning will be considered.

Full course. Mr. Stevens.

324. THEORIES OF PERSONALITY I: ISSUES IN THE PHILOSOPHY OF PSYCHOLOGY.

This course covers three areas: (1) discussion of the philosophical bases of "theories" of personality; (2) consideration of some of these issues in different theories (e.g. Freud, Kelly, Dollard, and Miller); and (3) presentation and discussion of an alternative framework.

Full course, Semester 1.

Mr. Wiener.

325. THEORIES OF PERSONALITY II: EXPLORATION OF EXEMPLAR THEORIES OF PERSONALITY. Not offered, 1978-79. Full course. Mr. Wiener.

327. MORAL DEVELOPMENT.

Not offered, 1978-79.

The classical and contemporary approaches to the development of moral judgment and conduct in the individual will be studied. Emphasis will be on new and future directions for research in this area

Full course.

Mr. Damon.

328. SOCIAL COGNITION.

Not offered, 1978-79. This course will focus on contemporary approaches to the study of social reasoning in children, adolescents, and adults. Emphasis will be on the individual's developing knowledge of interpersonal

relations, the self, and other persons. Recent theoretical and empirical work will be considered.

Full course. Mr. Damon.

330. GRADUATE SEMINAR ON TEACHING OF GENERAL PSYCHOLOGY. Not offered, 1978-79.

Graduate students who will participate as teaching assistants in general psychology, will work on the formulation of all features of the course including assignments, responsibilities for lectures, readings, demonstrations, etc.

Staff.

331. CLINICAL METHODS II.

A practicum devoted to clinical experiences primarily with children. This includes intelligence and projective testing; diagnostic interviewing, and play therapy with children. Full course, Semesters 1, 2, Mr. Ciottone.

332. THEORIES OF PSYCHOTHERAPY.

A comparison of various theoretical approaches to psychotherapy will be considered.

Full course. Semester 2.

Mr. Wiener.

334. SEMINAR IN BEHAVIOR AND EVOLUTION.

This is a consideration of selected contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. See also Biology 334. Full course, Semester 2. Mr. Thompson.

336. CURRENT TOPICS IN COGNITIVE PSYCHOLOGY.

Not offered, 1978-79.

The course will review the current theoretical and empirical literature on comprehension and on long term memory for

meaningful material. Current theories within cognitive psychology will be examined in depth (Anderson and Bower; Norman, Lindsay and Rumelhart; Kintsch, Paivio; Collins and Quillian) as well as the theoretical work in linguistics associated with it (e.g., Fillmore's case grammar; the Miller and Johnson-Laird analysis of language and perception). The corresponding current cognitive empirical literature will then be surveyed, covered such topics as sentence comprehension, memory for meaningful material, imagery, categorization and semantic memory. The aim is to provide students with a solid basis for keeping up subsequently with this rapidly expanding area. Prerequisites: prior course in psycholinguistics recommended; otherwise, permission of instructor.

Full course. Ms. Joffe Falmagne.

337. SEMINAR ON REASONING.

The current theoretical and empirical literature on logical reasoning will be examined in depth, with particular attention to the notion of logical competence and its alternatives. Formal models proposed for natural logic will be surveyed, as well as material focusing on the deductive process per se. The closely related areas of language comprehension, semantics, imagery, and representation of meaning in long term memory will be selectively covered. Prerequisites: Psychology 268., 286., 336. or equivalent background recommended. Otherwise negotiate supplementary readings with instructor.

Full course, Semester 2.

Ms. Joffe Falmagne.

338. CONCEPTIONS OF PERSON.

This is an examination of research and theory in the areas of self concept and of person perception with a focus relationship between the two.

Semester 2.

Mr. Laird.

339. SEMINAR ON THE EFFECTS OF EARLY EXPERIENCE.

This is an examination of recent evidence pertaining to the effects of various circumstances during early ontogenesis on the course of perceptual, cognitive, and motivation development aimed at conceptualizing these effects within a coherent framework.

Full course, Semester 2.

Ms. Uzgiris.

340. PHENOMENOLOGY OF INTERPERSONAL RELATIONS.

The techniques of observation and the purpose of inquiry necessarily influences the course of experience. How are we to validate the different descriptions that ensue? In this seminar we will contrast the investigation and description of experience as it develops in: a taped psychoanalytic case, the course of practice in Buddhist meditation, one of Merleau-Ponty's phenomenological inquiries, the observational-interview techniques developed by Kurt Lewin and his students, and the structural analyses of emotions.

Full course, Semester 1.

Mr. de Rivera.

342. CHEMICAL COMMUNICATION. Not offered, 1978-79. This is a seminar dealing with the role of pheromones in mammalian behavior.

Full course.

Mr. Stevens.

351. CLINICAL METHODS III.

Practicum training in some special area, e.g., child clinical, family interactions, human neuropsychology.

Full course, Semesters 1, 2.

Staff.

352. CLINICAL METHODS IV.

This is a supervised experience in diagnostic interviewing in the Psychological Services Center.

Full course, Semesters 1, 2.

Mr. Baker, Mr. Cirillo.

353. THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION.

Full course, Semesters 1, 2.

Mr. Peterson.

357. SYMBOLIC BEHAVIOR.

The seminar's first semester will deal with "primitive" forms of cognition and expression (representation, symbolization) as these are manifested in ontogenesis (language behavior, play, etc.) in the collective representations of non-literature societies (as discussed by Levy-Bruhl, Levi-Strauss, and others), in oneiric states (dreams, hypnogogic conditions) in poetry, and in organic- and psychopathology. During the second semester the seminar will be oriented toward research in the area of "primitive" thinking and expression. Only those registered during the first semester will be permitted to enroll during the second semester.

Full course, Semester 1 and 2.

Mr. Kaplan.

360. SEMINAR: CURRENT APPROACH TO THINKING I.

Not offered, 1978-79.

The seminar is aimed at providing an introduction to a number of contemporary, increasingly influential approaches to thinking, in particular: (1) computer simulation of problem-solving, memory, language comprehension; (2) recent Soviet work on thought and inner speech; (3) psychological and linguistic approaches to reasoning and semantics. The format will be study, presentation and discussion of selected significant writings in these areas. An additional "directed readings" arrangement could also be worked out optionally.

Full course.

Ms. Joffe Falmagne.

365. SEMINAR IN RESEARCH ON LANGUAGE AND LOGICAL DEVELOPMENT.

Specific topics in adolescent reasoning will be considered.
Language comprehension, development of propositional reasoning, language development, and acquisition of number concepts, will be examined in depth. The relevant literature will be surveyed and research projects will be developed by the students in these respective areas. The intended outcome of the seminar is for each student to produce an extensive literature review paper and a research proposal on one of these specific topics. ,
Full course, Semester 1.

380. RESEARCH IN PSYCHOLOGY.

Direction of individual students in their research. Full course, Semesters 1, 2.

Stat

381. READINGS IN PSYCHOLOGY.

This is a critical analysis of literature in areas related to individual research.

Full course, Semesters 1, 2.

Staff.

382. CONSULTATION IN FAMILY PRACTICE.

Practicum in consultation to residents in Family Medicine.

Semesters 1, 2. Mr. Bibace, Mr. Frey, Mr. Catlin, Ms. Cotsonas.

385. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, I.

Semesters 1, 2.

Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener.

386. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, II.

Semesters 1, 2.

Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener.

387. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, III.

Semesters 1.2.

Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener.

388. PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, IV.

Semesters 1, 2.

Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener.

389. INTERNSHIP IN PSYCHOLOGY.

Full course, Semesters 1, 2,

Staff

Science, Technology and Society

PROGRAM COMMITTEE

Christoph Hohenemser, Ph.D., Professor of Physics, Program Chairperson

Dennis W. Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Associate Chairperson and Undergraduate Adviser

Roger E. Kasperson, Ph.D., Professor of Government and Geography

Robert W. Kates, Ph.D., University Professor and Professor of Geography

John T. Reynolds, Ph.D., Professor of Microbiology John A. Davies, Ph.D., Associate Professor of Physics Harvey A. Gould, Ph.D., Associate Professor of Physics Albert M. Gottlieb, Ph.D., Assistant Professor of Physics Alan A. Jones, Ph.D., Assistant Professor of Chemistry Don M. Shakow, Ph.D., Assistant Professor of Economics Robert L. Goble, Ph.D., Visiting Assistant Professor of Physics and Science, Technology and Society

Harry E. Schwarz, B.C.E., Visiting Professor of Environmental Affairs, Adjunct in Geography

UNDERGRADUATE PROGRAM

STS is a program of interdisciplinary study with emphasis on the assessment of policy questions involving the use and misuse of science and technology. The goal of the program is to produce individuals who are able to deal with technical issues in a social and political context, and who do so with an acute awareness of the short and long range limitations of the natural environment. Participating faculty have interests and research activities in a wide range of current societal problems, and regular courses of instruction are offered in two principal areas: (1) energy technology and policy; (2) environmental science and management.

A major in STS would be of interest to students with an inclination toward science and a concern for the numerous and complex problems facing our technological society. The program is also attractive to students who wish to add an interdisciplinary component to their studies within a traditional field, as majors from other departments often constitute the majority of students enrolled in program courses. Science majors in particular find STS courses a useful way of adding breadth to their departmental

Graduates of the program have begun to pursue varied and interesting careers in a diversity of fields. Several former STS students, for example, are doing graduate work in areas such as environmental engineering, technology and human affairs, medicine, and law. Others have secured positions with private and public organizations in the energy field. Future graduates might well become government regulatory officials, science writers and teachers, environmental lawyers, or community service workers. Many possibilities exist for the person with a broad-based education and some familiarity with the interdisciplinary problems dealt with in the STS field.

Although natural science and social science are both important to the program, degree requirements do not give them equal weight. There is an emphasis on achieving literacy in natural science, and the reason is twofold: (1) many significant problems are accessible only with a thorough grounding in natural science; (2) in the nation's future there is a significant need for managers of science and technology whose technical background is more than perfunctory. Recognizing this, majors in the program often take more than the minimum number of required science courses, and

in many cases have elected to double major with a regular science department.

The requirements for the major in Science, Technology and Society are as follows—

- Ten semesters of basic natural science, with at least six in a single discipline. For the present purpose, the natural sciences are considered to include physics, chemistry, biology, and mathematics. Certain courses in economics may also be creditable toward this requirement.
- 2) Four semesters of basic social science, carefully selected with the advice of the Program Committee to complement the natural science concentration and to fulfill the goals of the student. These courses are frequently drawn from areas such as economics, government and law, geography and environmental affairs.
- 3) Three semesters of courses offered under the auspices of the program, as listed below. These courses are all problemoriented, provide a distinct multi-disciplinary perspective, and in many cases are offered jointly by two or more of the program faculty.

The choice of specific courses to meet these requirements must be approved by the Program Commitee, after discussion with individual members, including those who are affiliated with departments in which the students have their science concentration. Students should present a tentative plan of study to the undergraduate adviser at the earliest possible date, and are encouraged to meet with him/her at the beginning of each semester thereafter.

Students who wish to receive honors in Science, Technology and Society must pass a comprehensive examination in their senior year at the B + level, and must present an acceptable undergraduate thesis. The comprehensive examination will cover: (1) basic science in a discipline of the candidate's choice; (2) basic social science in the discipline of the candidate's choice, and (3) a major problem of Science, Technology and Society of the candidate's choice.



Students wishing to examine sample programs or obtain more detailed information about STS should request a *Guide for Prospective Majors* from the undergraduate adviser.

INTERNSHIPS AND RESEARCH OPPORTUNITIES

Majors in the STS program are encouraged to strengthen their educational experience further by working in paid summer jobs related to their academic interests. These internships are often obtained with the advice and assistance of the Program Committee, whose members have contact with numerous organizations. Examples of placements in recent years include the Town of Holden Conservation Commission, the Massachusetts Energy Office, the Scientists Institute for Public Information, the Central Massachusetts Regional Environmental Council, the Massport Office of Noise Control, the Central Massachusetts Air Pollution Control District, and the Massachusetts Office of Coastal Zone Management.

Another important way for undergraduates to supplement their formal classroom training is to participate in one of several research projects conducted each year by members of the Program Committee. The results of such work are often published in the STS Review, an occasional journal which began operation in November of 1975.

One continuing project that has involved undergraduates in past years is the Cogeneration Feasibility Project, a study of the technical, economic, environmental, and legal aspects of the proposed generation of both steam heat and electricity on the Clark campus. Other projects in which students participate include a major study of the management of technological hazards, and a statewide information and referral service on energy conservation in the home.

THE CENTER FOR TECHNOLOGY, ENVIRONMENT, AND DEVELOPMENT

Several faculty of the STS Program are members of the newly-formed Center for Technology, Environment, and Development, designed to consolidate a variety of interrelated research activities of some twenty or more faculty with common interests in technology assessment, environmental protection, and international development. The four major aims of the center are as follows: (1) to encourage regular and frequent contact among participating faculty through a program of core seminars; (2) to provide a base from which visiting scholars and policy-makers can spend extended periods making contributions to ongoing projects; (3) to plan coherent doctoral and post-doctoral educational programs and to provide internship opportunities for outstanding undergraduates; (4) to communicate research findings to the community of scholars, decision-makers, and concerned citizens through a vigorous outreach program. The Center is directed by Dr. Roger Kasperson, Professor of Government and Geography and a member of the STS Program Committee.

COURSES

101. INTRODUCTORY CASE STUDIES.

This course introduces students to the fields of technology assessment and environmental affairs by presenting a series of problem-oriented, interdisciplinary cases. Announced at the beginning of each semester, these cases are drawn from such areas as population and food, land and water resources management, energy, pollution control, and technological risk assessment. An integrative research paper prepared in close consultation with an instructor plays a major role in the course, and guest speakers, field trips, and special class exercises are also used to enhance the learning experience. (See also Environmental Affairs 101.)

Mr. Ducsik, Mr. Hohenemser, Mr. Kates, Mr. Schwarz. Mr. Ducsik, Mr. Kasperson.

Full course, Semester 2.

131. SOLAR ENERGY.

This is a critical survey of existing and proposed methods of utilizing solar energy. Topics include a history of solar energy applications, the use of solar energy for space and water heating, the limitations imposed by thermodynamic laws and economic costs, and an analysis of methods of producing work from solar energy (e.g. solar heat engines, wind, solar cells, ocean thermal gradients, biological methods, etc.). No particular background in physical science beyond high school physics or chemistry is needed. Students will be asked to analyze and evaluate simple systems quantitatively, and will become familiar with experimental solar devices now at Clark.

Full course, Semester 1.

132. ALTERNATIVE ENERGY SYSTEMS LABORATORY.

Students will learn through lectures and laboratory experience about the physics and engineering of alternative energy devices, such as solar collectors, photovoltaic cells, solar ovens, and wind machines. Co-requisite: Physics 11., or 12. Prerequisite: STS 131. Limited. (See also Physics 132.)
Full course, Semester 2.

Mr. Gottlieb.

142. ENVIRONMENTAL CHEMISTRY.

This course focuses on the chemistry related to environmental problems, particularly aquatic chemistry and aquatic pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. There will be two lectures and one laboratory per week. Prerequisite: Chemistry 100. (See also Chemistry 142.) Full course, Semester 1.

150. AQUARIUS: PLANNING FOR URBAN WATER RESOURCES.

Help wanted: Water resource planners for City of Aquarius to prepare 50-year plan for water supply, water quality, flood control, and recreation. Includes opportunity to use advanced computer simulation. Group collaboration is required. (See also Geography 150.)

Full course, Semester 1.

Mr. Warrick.

155. THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT.

This course will be a review of political economic problems associated with such natural resources as agricultural land, energy goods, and minerals — as well as a resource common to all of us, our natural environment. Typical issues to be analyzed include the assessment of environmental impacts within a market oriented economy; the potential role of international cartels in resource allocation; and the assessment of nuclear generation from an economic standpoint. (See also Economics 155.)
Full course, Semester 2.

178. NUCLEAR ENERGY POLICY ISSUES. Not offered, 1978-79. This is a survey of major issues relevant to the evaluation of nuclear power. After an historical introduction, the course will deal with the problems of resources, economics, hazards, and regulation of nuclear energy in the United States. On the technical side, the focus will be on salient aspects of nuclear technology, risk assessment, the prospects for the breeder, and the special economic problems of capital intensive, long-term investments. On the societal side, the focus will be on problems of nuclear power regulation, safety policies, accident liability, siting policy, and assessments of public attitudes. Full course. Mr. Hohenemser, Mr. Kasperson.

201. ENERGY AND SOCIETY.

This is a wide-ranging introduction to the global energy situation and the "crisis" facing our energy-intensive industrialized nation. In the first several weeks students develop literacy in the technical, economic, and social aspects of the problems. The second half of the course focuses on major energy policy issues

such as the future availability of oil and other resources, the role of conservation, the status of "non-conventional" technologies, and the environmental tradeoffs associated with energy production. Calculus is not required but some quantitative background is necessary. Prerequisite: permission of instructor. Full course, Semester 2. Mr. Ducsik

223. THE DYNAMICS OF SYSTEMS.

Not offered 1978-79 This course is an introduction to the methodology of system dynamics modelling as a means of analyzing large-scale societal problems such as ultimate limits to growth, future availability of resources, and the effect of climate fluctuations on human populations. Lectures and assignments will be drawn from existing computer simulation models in these and other areas such as theoretical ecology. Students will learn two programming languages, BASIC and DYNAMO, and will construct, operate, and evaluate their own models. No experience with computers or special competence in mathematics is required. The course is offered in alternate years. Full course. Mr. Gould. Mr. Schwarz

226. TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT.

For advanced students, this is an introduction to the theory and methods of risk assessment and management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation. (See also Geography 226., or Environmental Affairs 226.)

Full course, Semester 2.

Mr. Kates.

231. ELECTRICITY PLANNING AND DECISION-MAKING.

The course examines how planners, regulators, and citizen groups deal with the economic and environmental issues surrounding electricity production. Background is provided on such topics as the physical nature of power supply systems, the organization of the utility industry, and the system of legal controls established by government. Planning questions such as the projection of future demand, the choice among different technologies, the siting of major generation and transmission facilities, and the pricing of electricity are analyzed from both an economic and an institutional standpoint. Actual cases of electricity decision-making such as the recent rulings on the Boston Edison rate request or the Seabrook nuclear power plant proposal are used to bring key issues into focus. Prerequisite: permission of instructor. (See also Economics

Full course, Semester 1.

Mr. Ducsik, Mr. Shakow.

238. ISSUES IN PUBLIC HEALTH.

Prerequisite: permission of instructor. (See also Biology 238.) Full course, Semester 1. Mr. Revnolds.

239. BIOLOGICAL SYSTEMS AND WATER POLLUTION CONTROL.

This is an attempt to deal with those problems associated with water pollution that are amenable to solution through the application of concepts and approaches of the biological sciences. The participants do not have to be biology majors, but will be expected to be literate in one or more of the scientific disciplines. Prerequisite: permission of instructor. Two 75-minute meetings per week. (See also Biology 239.)

Full course, Semester 2.

Mr. Revnolds.

270. SPECIAL TOPICS IN SCIENCE, TECHNOLOGY, AND SOCIETY.

Students will do independent readings and/or experimental work. Variable credit, Semesters 1, 2. Staff.

271. HONORS IN SCIENCE, TECHNOLOGY, AND SOCIETY.

Students will do supervised research leading to an undergraduate thesis

Variable credit, Semesters 1, 2.

Staff.

272. SPECIAL PROBLEMS IN ALTERNATIVE ENERGY RESOURCES.

This is a project-oriented course tied to on-going faculty research. For 1978-79, the seminar will deal with the economic and environmental tradeoffs in decentralized power generation. The proposed Clark University demonstration cogeneration system will serve as a test case.

Full course, Semesters 1, 2

Mr. Goble.

273. PRACTICUM IN HOME ENERGY CONSERVATION.

Under a grant from the State Energy Office of Massachusetts, the STS Program operates a statewide information and referral service (the "Energy Phone") for homeowners with questions about conservation, alternative energy sources, and related matters. This course provides the necessary training for students who would like to work for the Energy Phone on a 9-12 hour per week basis (pay is provided for time spent manning the telephones). The first several weeks will be devoted to understanding the conceptual basis for energy conservation and the fundamentals of insulation, heating systems, weatherization. and so on. The remainder of the course will explore topics of special interest in a seminar-type fashion. Prerequisites: some college-level background in basic physical science is desirable: permission of instructor.

Full course, Semester 1.

Mr. Ducsik.

APPLIED COURSES RELATED TO STS OFFERINGS

For descriptions, please refer to departmental course listings.

Environmental Affairs 210. ENVIRONMENTAL PROTECTION. Full course, Semester 2. Staff.

Environmental Affairs 216. ENVIRONMENTAL IMPACT ASSESSMENT.

Full course, Semester 1.

Staff.

Environmental Affairs 231. SEMINAR: POLITICS AND THE ENVIRONMENT.

Full course, Semester 2

Mr. Kasperson.

Geography 013. FIELD STUDIES IN ENVIRONMENTAL ISSUES.

Full course, Semester 2.

Mr. Kates.

Geography 347. SEMINAR IN SYSTEMS ANALYSIS.

Full course, Semester 1.

Mr. Schwarz.



Sociology and Social Anthropology

DEPARTMENT FACULTY

Sidney M. Peck, Ph.D., Associate Professor of Sociology, Department Chairperson.

Edward E. Sampson, Ph.D., Professor of Sociology, Adjunct Professor of Psychology.

Stanford N. Gerber, Ph.D., Associate Professor of Social Anthropology

Robert J. Ross, Ph.D., Assistant Professor of Sociology. Karen B. Sacks, Ph.D., Assistant Professor of Social Anthropology.*

Elizabeth A. Stanko, Ph.D., Assistant Professor of Sociology

*On leave 1978-80.

UNDERGRADUATE PROGRAM

The Department of Sociology and Social Anthropology has three major foci. These are: Social Anthropology-which treats the concept of culture and cultural patterns in comparative fashion; Social Psychology-which focuses on interaction between individuals and groups; and Structural Sociology-which deals with large-scale structure and process at the societal level. For convenience, social anthropology courses are designated with an asterisk (*). While students may emphasize one or another of these areas in their coursework, the department does not offer a formal concentration in any of them.

Undergraduate Major

The departmental major consists of nine courses within the department, and, usually, five additional courses in other departments selected from a set of focused options; the selection will be developed through close consultation with a major adviser. The nine departmental courses are to be divided as follows:

At least one introductory course chosen from: Introduction to Sociology Introduction to Social Psychology Introduction to Social Anthropology

At least one advanced theory course chosen from:

Sociological Theory: Classical

Sociological Theory: Contemporary

Anthropological Theory

Social Psychological Theory: Small Group and Interpersonal Processes

Topics in Sociological Theory

III) At least one methods course chosen from:

Sociological Research Methods

Field Methods

(From time to time, other methods courses will be offered and may be substituted for the above listing; courses selected from the methods offerings in other departments may, with the consent of the student's adviser, be substituted for a methods course within sociology; the student can meet the methods requirement, but not the course requirement [i.e. nine courses in Sociology] by this option.)

IV) At least two courses chosen from the following:

Ethnology: Caribbean

Political Sociology

Race and Ethnic Relations

Urban Sociology

Social Stratification

Deviance

Social Psychology Theory: Small Group and Interpersonal **Processes**

Industrial Psychology

Social Movements

Sociology of Sex Roles

(From time to time, other courses will be offered and may be substituted for the above listing)

In their senior year, or in selected cases, before that, and in close consultation with their adviser, majors will select one of the following options:

Option A: Thesis: This is the equivalent of four full courses in sociology; it is designed for selected students who wish to devote approximately 50 per cent of their senior year to a major research problem.

Option B: Internship: This is the equivalent of from two to four full courses: it is designed for selected students who seek supervised field training in community or organizational settinas.

Option C: Senior Seminar: This is the equivalent of two full courses and consists of a year-long seminar devoted to an examination of major themes and issues in Sociology. (Not offered, 1978-79)

Option D: Course Work: For those students who do not choose any of the other options, an additional four sociology courses are required; these may include core courses, directed readings, and special projects.

VI) Related Courses

In close consultation with their adviser, students will plan a program of additional courses which center on a coherent intellectual focus which complements the substantive knowledge of and conceptual skills of the department curriculum. Such foci will most usually consist of courses taken in another social science department, but they may be interdepartmental, e.g. "urban focus" could include courses in government, geography, history, and/or economics.

The general expectation of the department is that such related course work will comprise five (5) courses. This expectation may be higher for those who choose foci which entail taking elementary courses in preparation or as prerequisites. Thus, someone with an area study interest in Latin American culture would need elementary language courses in addition to five courses in culture, history, and politics.

GRADUATE PROGRAM

At the present time, the department is not accepting students for the Master of Arts degree.

COURSES

100. INTRODUCTION TO SOCIOLOGY.

This is a general introductory course to the discipline of sociology, intended mainly for students who wish to gain a broad, general overview of the field, its areas of study, methods on inquiry, and conceptions and analyses of society. The central objective of the course is to encourage students to think and feel sociologically. Full course, Semesters 1, 2. Mr. Ross.

105. INTRODUCTION TO SOCIAL PSYCHOLOGY.

This is an examination of the relationship between the individual and the social system. The theories, methods, and findings of social psychology will be examined as they illuminate the major, enduring themes that confront human beings individually and collectively: e.g., the bases of knowledge and understanding; the individual and authority; freedom, reason, and responsibility; development, identity and individuality; exchange and justice, etc. Full course, Semesters 1, 2. Mr. Sampson.

110. INTRODUCTION TO WOMEN'S STUDIES.

This is an overview of the problems, issues, and research on sex role dichotomization and the bio-social systems which produce and maintain them. While particular emphasis will focus on material from sociology and other relevant social sciences, topics from the humanities and the biological sciences will also be considered

Full course, Semester 1.

Staff.

120. INTRODUCTION TO SOCIAL ANTHROPOLOGY.*

This course offers an analysis of non-western societies with a focus on social structures. The emphasis will be on the development of a comparative perspective and a non-ethnocentric perspective on our own culture. Theoretical and topical interests differ with instructor.

Full course, Semesters 1, 2.

Mr. Gerber.

170. SOCIOLOGICAL RESEARCH METHODS.

This course will provide a general introductory survey of various methods employed in social scientific inquiry including, for example, the sample survey, interviewing, questionnaire approaches, experimental methods, etc. The course will examine general issues involved in research design and research evaluation as well as issues involved in selecting methods to suit particular research problems and questions.

Full course, Semester 1.

Mr. Sampson.

Full course, Semester 2.

Ms. Stanko.

200. DIRECTED READINGS IN SOCIOLOGY AND SOCIAL ANTHROPOLOGY.

Variable credit, Semesters 1, 2,

Staff.

201. SPECIAL PROJECTS IN SOCIOLOGY AND SOCIAL ANTHROPOLOGY.

Variable credit, Semesters 1, 2,

Staff.

202. WORCESTER COMMUNITY STUDY.

The Worcester Community Study is a research seminar oriented to descriptive evaluation and action research on any facet of the social structure of the Worcester community. Students who wish to add a research dimension to their special projects, internships, and practicums are encouraged to participate in this seminar. Participants in this seminar will be expected to help coordinate small research teams engaged in a long-term study of the Worcester community.

Full course, Semester 2.

Mr. Peck.

205b. SMALL GROUP AND INTERPERSONAL WORKSHOP.

This is an intensive, unstructured, small-group experience designed for students who have completed or are concurrently taking the small-group theory course (291b.), and who now wish to enrich their intellectual knowledge by a direct self-analytic group experience. The class will be organized into an unstructured group and will spend the term examining the material which is generated by this group. The course is offered on a Credit/No Record basis only.

Full course. Semester 2.

Mr. Sampson.

210. WOMEN AND CRIME.

In traditional criminology, women's role in the criminal justice system is seldom a topic of focus. This course will concentrate on the role of women, both as criminal offenders and as the primary targets of male offenders. We will explore the traditional felony crimes such as murder, robbery, victimless crimes, prostitution; treatment of women in courts and prison; victimology, such as rape and battered wives; and women workers within the criminal justice system, i.e., policewomen, etc.

Full course, Semester 2,

Ms. Stanko.

215. ENTHNOMETHODOLOGY.

Ethnomethodology, both theory and method, studies the actor's everyday world. This course's objective is to familiarize the student to the phenomena of everyday life. In addition, students will explore the use of video and taped conversation for purposes of analysis.

Full course, Semester 1.

Ms. Stanko.

220a. ETHNOLOGY OF THE CARIBBEAN.*

This course will focus upon various problems in the analysis of the Caribbean culture area.

Full course, Semester 1.

Mr. Gerber.

225. SOCIOLOGY OF SEX BOLES

The focus of the course is on the sex-role socialization process. This is considered in relation to social class and caste, cultural variables, institutions, political and psychological effects, and implications.

Full course. Semester 1.

Staff.

243. POLITICAL SOCIOLOGY.

Politics may, for certain purposes, be seen as the result of structures of sentiment and power from which particular policies and institutions emerge. The course examines, in theory and research, class and political behavior, the political economy of power, sources of conflict and stability in modern society and social movements.

Full course, Semester 2.

Mr. Ross.

244. RACE AND ETHNIC RELATIONS. Not offered, 1978-79. The purpose of this seminar is to enable the participants to begin to develop a theoretical framework for analyzing problems of racism and to conceptualize solutions to the problems consistent with the analysis.

Full course.

Staff.

245. SEMINAR IN THEORETICAL MODELS IN

SOCIAL ACTION.

Not offered, 1978-79.

This is a critical evaluation of anthropological, sociological, and literary sources and their application to contemporary social problems.

Full course.

Mr. Gerber.

246. SOCIAL PLANNING AND SOCIAL POLICY.

Not offered, 1978-79.

This seminar will be concerned with the analysis of policy issues related to urban social problems. The seminar will address itself to three major objectives: (1) how social policy is formulated; (2) how social problems are analyzed from the perspective of the policy makers; and (3) how social policy addresses problems of social importance in urban society. The students will be introduced to the literature of the field, and will be given opportunities to analyze specific social problems.

Full course.

Mr. Ross.

247. URBAN SOCIOLOGY.

The ethnic and other communities of the big cities will be examined through the literature of historical and community studies: these materials will provide the basis for interpreting urbanism and the politics of the recent period. The political machines, the functions of social policy, and the problems of our big cities are some of the broader issues discussed. Full course, Semester 1. Mr. Ross.

250. CRIMINOLOGY.

The course constitutes a survey of who the criminal justice system processes, how it does it, and what social science has learned about the social nature of crime. Full course, Semester 1.

Ms. Stanko.

255. SEMINAR IN THE FAMILY.

The course examines critical, historical, and feminist perspectives on the institutions of marriage and the family. The seminar will consider comparative, historical, and theological analyses of the social role of women vis-a-vis the role relationships inherent in marital institutions.

Full course, Semester 2.

Staff.

Not offered, 1978-79. 256. SOCIAL STRATIFICATION. This is an analysis of the major dimensions of social stratification

in contemporary society. Students will consider economic class, social status, power, class consciousness, social mobility, and the consequences of class difference.

Full course. Mr. Peck.

261. CRIMINAL JUSTICE IN AMERICA.

The criminal justice system is a complex set of roles and perspectives which is traditionally viewed as an integrated unit which processes individuals arrested for criminal offenses. This course is designed to view the criminal justice system as a topic for inquiry into social relations of institutions which are studies as isolated agencies (i.e., law enforcement, court process, corrections) as well as an ''integrated'' system as a whole. Full course, Semester 2.

Ms. Stanko.

263. DEVIANCE.Not offered, 1978-79. This course has two fundamental objectives: (1) to introduce the

student to the literature, research, and conceptual problems in the field of deviance; and (2) to examine conceptual frameworks out of which contemporary definitions of deviance emerge.

Full course. Ms. Stanko.

264. JUVENILE DELINQUENCY. Not offered, 1978-79.

This course will center around delinquency and criminal behavior. Its major purpose is to increase students' sensitivity to some of the major factors affecting delinquent behavior and to introduce some of the main theories explaining it.

Full course.

Ms. Stanko.

265. SOCIAL MOVEMENTS. Not offered, 1978-79.

This course will discuss the general characteristics of modern social movements with the New Left and other protests of the sixties as extended case examples. Problems of recruitment, organization, and ideology will be analyzed. The form of the course will depend on the size of registration.

Full course. Mr. Ross.

267. POLITICAL ANTHROPOLOGY.*

This course includes an examination of varying levels of social-political culture. Cultures viewed will include hunters and gatherers, contemporary Russia and selected African societies. A certain amount of attention will be given to Caribbean political systems and movements.

Full course, Semester 1. Mr. Gerber.

270. STUDY OF LIVES. Not offered, 1978-79.

The focus of this course is upon the study of lives, the unique intersection of personal biography and cultural history that can best be appreciated through the careful and intensive examination of a human life. Students will conduct an in-depth study of two lives: their own, through the development and presentation of their autobiography; and the life of a person they select for study and presentation during the term. Prerequisite: permission of instructor.

Full course. Mr. Sampson.

271b. FIELD METHODS: CONCEPT AND ISSUES IN ANTHROPOLOGY. Not offered, 1978-79.

This course will deal with theoretical issues in the conduct of anthropolitical field work, including an intensive survey of the literature, problems, and prospects. In addition, instruction and use of camera, tape recording equipment, etc., involved in field work will be covered. (Indivisible).

Full course. Mr. Gerber.

271c. FIELD METHODS: PRACTICUM IN ANTHROPOLOGY.*

Not offered, 1978-79.

This course will include on-site experience where students will obtain and conduct a limited field research project. Prerequisite: 271b.

Full course. Mr. Gerber.

276. DEVELOPMENTAL AND APPLIED ANTHROPOLOGY.*

Anthropology, because of its emphasis on a holistic approach of culture, coupled with participant-observation field experience, is uniquely suited to the analysis and direction of cultural change. The purpose of this course is to develop an anthropological perspective with respect to problems of direction, cultural change, intervention, and "modernization." Areas to be discussed include problems of "applied" theory, unintended consequences of institutional change, psychological and cultural impediments to "modernization." Critical attention will be paid to the ethnocentrism of "development" and modernization.

Full course, Semester 2.

Mr. Gerber.

282. INDUSTRIAL SOCIOLOGY. Not offered, 1978-79. This course is concerned with the study of social relations in the industrial setting. The course will cover the research tradition beginning with the human relations school and extending through the sociology of work and occupations. A special focus of the course will be on workers' organizations and the sociology of labor.

Full course. Mr. Peck.

288. SEMINAR IN POLITICAL ECONOMY.

The seminar will introduce the Marxian mode of analysis and then apply it to some major themes in political sociology. It will use the Classical writings of Marx and Engels, but will include work being done by contemporary Marxists, neoMarxists and their critics. Some of the topics, beyond the introductory material, which will be addressed are: class structures and class consciousness; the state in capitalistic society; the political economy of the cities. Students should be prepared to make class presentations and write papers.

Full course, Semester 2. Mr. Ross.

290a. SOCIOLOGICAL THEORY: CLASSICAL.

Beginning with the European writings of the early sixteenth century and extending to the expression of social theory at the turn of the twentieth century, the course focuses on the way in which certain social themes dealing with human relationships were treated by the classic works of outstanding European social philosophers and theoreticians. These social themes refer to issues of value consensus and social conflict, established power and rebellious disorder, the social person and the alienated human. Oriented to a sociology of knowledge perspective, the range of ideas beginning with Machiavelli and More and ending with Weber and Simmel are considered in the context of the history and social structure of national capitalism as it emerged in the specific settings of Italy, England, France, and Germany.

Full course, Semester 1.

290b. SOCIOLOGICAL THEORY: CONTEMPORARY.

Social developments in the United States during the post World War II epoch have given rise to a variety of theoretical views in the field of sociology. The diversity of approach and fragmentation of theoretical stance will be related to significant changes in social structure and political economy of the United States during the past three decades. The relationship between social theory and political ideology will be considered throughout.
Full course, Semester 2.

Mr. Peck.

291b. SMALL GROUP AND INTERPERSONAL PROCESSES.

This is an intensive course designed to introduce students to some of the major concepts and theories which have been developed to understand small-group and interpersonal processes. The formulations of persons such as Freud, Sullivan, Mead, Bion, exchange theorists, and others will provide the major focus of the course.

Full course, Semester 1.

Mr. Sampson.

293. ANTHROPOLOGICAL THEORY.* *Not offered, 1978-79.* This course offers a critical evaluation and examination of the philosophical bases for anthropological inquiry. Consideration will

be given to such areas as the rationale for cross-cultural studies and the effects of Western cognition on the development of anthropology as a discipline. French structuralism, and existential and phenomenological modes of inquiry will be discussed. Full course. Mr. Gerber.

297a. TOPICS IN SOCIOLOGICAL THEORY: THE PERSON AND THE SYSTEM. Not offered, 1978-79.

Everywhere men and women strive for love and personal acceptance; but they receive these only at certain places and times. This course is primarily an analysis of theories of rational efficiency and communal or primary needs in modern society. It compares the orthodox theories of Weber and Parsons with the Marxist paradigm of alienation. Full course.

Mr. Ross.

297b. TOPICS IN SOCIOLOGICAL THEORY: STUDIES IN MARXISM. Not offered, 1978-79.

This seminar will examine some of the basic themes of Marxism. through close study of a major primary course, supplemented with class presentations and secondary reading. The Marxian theoretical and philosophic origins will be explored, and the political economy of Marxism will be studied. Full course. Mr. Ross.

298. SENIOR SEMINAR IN SOCIOLOGY. Not offered, 1978-79, This course consists of a year-long seminar devoted to the examination of major themes and issues in sociology. It is the equivalent of two full courses in sociology. Double course. Staff.

299. THESIS-SEMINAR.

The course combines seminar with independent study on selected topics. The course is intended for senior sociology majors. Each member of the sociology faculty offers a set of topics and thesis issues; students should sign up with the faculty person whose areas of interest are most congruent with their own. Emphasis in the course is upon independent work undertaken with faculty guidance and supervision. It is possible to take this as a year-long course that results in the submission of a thesis, thereby making selected students eligible to be considered for departmental honors in sociology

Four full course credit. Semesters 1, 2,

Staff.

299.9. INTERNSHIP IN SOCIOLOGY.

The course consists of supervised field training in community and organized settings. This is the equivalent of from two to four full courses in sociology.

Variable credit, Semesters 1, 2,

Staff.

HISTORY COURSES

The following course in History is recommended for Sociology majors.

History 280. BLACK AND WHITE IN GHANA.

(See course description under History.) Full course, Semester 1.

Mr. Von Laue.

Visual and **Performing Arts**

The Department of Visual and Performing Arts has programs in Art, Film Studies, Music, and Theater Arts. Majors or concentrations are offered in each of these areas and opportunities for self-designed majors in two or more of the areas are available. Students in other disciplines are invited to

participate in the department's courses and programs, or to consider the development of the equivalent of a minor in one of the arts. Combined majors such as math/music, studio art/biology, and sociology/film have been individually designed by students. Throughout the year the department sponsors numerous musical and theatrical performances, film showings, and art exhibitions.

ART

PROGRAM FACULTY

Donald Krueger, M.F.A., Associate Professor of Art, Department Chairman, Program Chairman Samuel P. Cowardin, III, Ph.D., Associate Professor of Art History Bonnie L. Grad, Ph.D., Assistant Professor of Art History Sante Graziani, M.F.A., Associate Professor of Art (Affiliate)

UNDERGRADUATE PROGRAM

Courses in studio art and art history provide opportunities for students to develop understanding and sensitivity in the visual arts of the past and present, to acquire resources for visual thinking and communication, and to engage in personal creative expression. Students may major in art history or studio art. including a program leading to the Bachelor of Fine Arts degree, or they may combine studio and history or use either as a part of a double or self-designed major. Both studio and history courses can also serve as a valuable part of education in the humanities or social or physical sciences.

The Art History Major

The art history major can serve as a meaningful humanistic focus for liberal arts education for students who appreciate art and are interested in its social, cultural, and historic ramifications. It can also provide a foundation for graduate study for highly motivated students interested in teaching, museum and gallery work, arts conservation, or arts management. The major offers opportunity for concentration in areas such as Renaissance and modern art history and permits individual study in areas of special interest.

Specific requirements for the art history major are continually reviewed by the faculty. At present, admission to the major requires at least a grade of B in the two-semester Art 11. foundation (or equivalent courses or superior advanced placement performance) and approval of the program faculty. Students must then complete: four art history courses in a single area (e.g., Renaissance, modern); four art history courses outside this area; four courses outside art, related to the area of concentration; three studio courses; and the senior project in Art History.

Requirements for the combined art history/studio major may be obtained from the program faculty or chairperson. The art history major can, with appropriate studio courses and special projects, serve as preparation for undergraduate or graduate study in architecture.

The collections and library of the Worcester Art Museum are available to Clark art students and, on occasion, internships for outstanding students may be arranged at the Museum.

The Studio Art Major

The Studio Art Major programs are designed to meet a number of student needs and interests: the satisfaction of personal curiosity about and interest in art; significant involvement in the creative process; or preparation for graduate study and/or a professional career in art, design, education, or art therapy. Two degree programs are offered:

The BFA Program

The Bachelor of Fine Arts degree program is for students with a strong interest in and commitment to art as a career. Admission to the program is highly selective and students are expected to maintain a professional level in their studio work, as well as a high

academic average. Continuation in the B.F.A. program is determined by faculty and student reviews at the end of the first and second years. A strong advising program assists students in curriculum planning, in identifying areas of major interest, and in preparation for graduate school or career. The B.F.A., which meets the National Association of Schools of Art studio credit hour requirements, includes: a four course foundation sequence, six "exploratory" studio courses, six studio courses in the student's major area of interest, and two senior project or studio thesis courses. Sixteen liberal arts courses, including art history and related courses from the Department of Visual and Performing Arts, are required. B.F.A. students will need an additional modular term or summer session to complete the 34 course requirement. Transfer students may need additional courses. The BA Program

The Bachelor of Arts degree program is for students who see studio art as a part of liberal education or who may be undecided about professional interest and commitment. It is a much more flexible program than the B.F.A., and can accommodate interest in art education, art therapy, film and video, or individually designed or double majors. The B.A. program requirements vary depending on the student's area of interest. In general, a minimum of 10 studio courses, including a senior project, two art history courses, and two departmental courses outside the art area is required. Specific curriculum guidelines may be had from the program chairperson. Under certain circumstances students may transfer to the B.F.A. program at the end of the first, or, rarely, the second

The majority of studio courses for both the B.A. and B.F.A majors are taken at the School of the Worcester Art Museum, a professional school which provides the Clark student with significant exposure to professional art and artists. Studio majors may participate in the School of the Worcester Art Museum Annual Student Exhibition. Admission to both studio majors is by portfolio evaluation and permission of the program chairperson.

Art history and on-campus studio courses are available to non-majors, to special students, and to students with combined or self-designed majors. Certain courses at the Worcester Craft Center are also open to non-majors.

Exhibitions of contemporary art and the work of Clark students are presented throughout the year in the Little Gallery. The on-campus Craft Studio and the Art Association, a student organization open to all interested persons, offer opportunities for extra-curricular involvement in art and craft activities.

COURSES

11. INTRODUCTION TO WESTERN ART I.

Ideally the first half of a two-semester sequence, this course covers classical, medieval, and Renaissance art. The first several weeks are devoted to an examination of basic elements in the visual arts, and to certain fundamental matters of terminology and approach. Selected works are then discussed as exemplars of style and artistic quality in the context of the leading ideas of their respective eras. Students are encouraged to observe original works in local museums. Full course, Semester 1.

Mr. Cowardin.

11. INTRODUCTION TO WESTERN ART II.

This course surveys the history of western art from sixteenth century Mannerism to contemporary art. In general, emphasis will be placed on the analysis of style in relation to the specific historical and social environment from which it emerges as well as on the formal development of individual artists. Attention will be given to the major artists in the history of art, such as Rembrandt, Goya, Picasso, Stieglitz, and Rauschenberg. The class will take two field trips to the Worcester Art Museum. Full course, Semester 2 Ms. Grad.

12. SURVEY OF PAINTING.

A general introduction to the art of painting, covering a wide range

of examples from East and West. The approach is historical only in that the material is taken up more or less in historical sequence and the stylistic development is viewed against the background of changing ideas. But matters of technique, design, and expression receive due attention.

Full course, Semester 2.

Mr. Cowardin.

77. INTERNSHIP.

Variable credit. Semesters 1.2.

Staff.

88. DIRECTED READINGS IN ART HISTORY.

Semesters 1, 2, Modular Term.

Staff.

89. SPECIAL PROJECTS IN VISUAL ARTS.

This is an independent studio art study. Variable credit, Semesters 1, 2, Modular Term.

Mr. Krueger.

98. SENIOR PROJECT IN STUDIO ART.

Full course, Semesters 1, 2.

Mr. Krueger.

99. SENIOR PROJECT IN ART HISTORY.

This is individual research culminating in a major paper. Periodic meetings with the staff to evaluate and discuss progress. Required of all majors in art history. Full course, Semesters 1, 2,

Staff.

100. THE CULTURE BUSINESS.

(See course description under History 242.)

115. SELECTED SUBJECTS IN MEDIEVAL ART.

Not offered, 1978-79.

A brief overview of the main phases of medieval art is followed by a series of student reports intended to illuminate specific subjects or deal with special problems. A maximum of student participation, each member of the course being responsible for at least two reports. Enrollment limited for this course. Prerequisite: pne course in art history.

Full course, Semester 2

Mr. Cowardin.

120. ITALIAN RENAISSANCE ART: 15TH CENTURY.

The course is concerned with art in the context of developing humanism and rationalism, mainly in Florence, but with excursions into northern Italy. The aim is to delineate the character of early Renaissance art and to distinguish its principal stylistic currents as they move toward confluence in the High Renaissance. Particular attention is given to the ideas of Alberti and some of the intellectuals in the circle of the Medici. Architecture, sculpture, and painting receive approximately equal emphasis. Full course, Semester 1. Mr. Cowardin.

121. ITALIAN RENAISSANCE ART: 16TH CENTURY.

The great figures of the High Renaissance art in Florence and Rome are the focus of the first part of the course. It will try to define, through readings and discussion, the special aesthetic qualities of this particular "classic moment," seen against the political and intellectual background. The course must also confront the difficult questions relating to the evolution of Mannerism, as well as the definition of this phenomenon. Finally, the scene will shift briefly to Venice. Class participation is encouraged and the coverage is kept flexible enough to accommodate it. Full course, Semester 2. Mr. Cowardin.

122. MICHELANGELO AND THE HIGH RENAISSANCE.

Not offered, 1978-79.

This course concentrates on Michelangelo's work in architecture. sculpture, and painting, taking into account personal, religious, intellectual, and political influences on his life. His style will be viewed in relation to the Renaissance background as well as the Mannerist trends of the sixteenth century. Full course. Mr. Cowardin.

123. VENETIAN ART.

Not offered, 1978-79.

Art in the Veneto from the twelfth century through the eighteenth. with emphasis on the Renaissance will be studied, seeking to define the qualities that distinguish the work of this region. especially in painting. The major figures, such as Palladio and Titian, will be studied in depth in the context of Venetian humanism. and other elements of contemporary culture. Full course.

Mr. Cowardin.

124. NORTHERN RENAISSANCE PAINTING.

This course concentrates on painting in Flanders from Van Eyck to Bruegel, Style, technique, and expression in representative works will be viewed in relation to their own background and to contemporary work in Italy. A secondary focus will be on the impact of Italian influence upon the art of France, Germany, and the Netherlands in the sixteenth century. Mr. Cowardin.

Full course, Modular Term.

140. MODERN ART - 19TH CENTURY. Not offered, 1978-79, This course surveys the revolutionary movements in European art from Neo-Classicism to Post-Impressionism, with special emphasis on the development of the avant-garde. Both the formal characteristics of styles and the cultural and social context from which they emerged will be examined. Attention will be paid to the reciprocal relationship between the visual arts; between painting and printmaking throughout the century, and painting and photography after 1845. Full course. Ms. Grad.

Not offered, 1978-79. 141. MODERN ART - 20TH CENTURY. This course surveys the major European art movements from the turn of the century to World War II. Much attention is given to the various art movements of the decade and a half before World War I. in which all traditional notions of representation were overthrown for either abstract and non-objective or highly expressive forms of art. Readings include the writings of the artists and numerous manifestoes that accompanied the exhibitions of the European avant-garde. One project, the creation of an original work of art, is designed to introduce the student to the formal and critical problems of the modern artist. Ms. Grad. Full course.

142. MODERNISM.

Imagination: formation of mental images of objects not present to the senses, especially of those never perceived in their entirety. This course is devoted to the study of the modern imagination, as it developed in the art of Europeans and Americans, from the turn of the century to World War II. Two major issues in modernism, expressed as polarities in content and form, will be explored in class lectures and "modernist workshops" - on the one hand, the incorporation of the non-art object (newspapers, ropes, hatracks, playing cards) into the art object, as in Picasso's and Braque's cubist collages and Duchamp's ready-mades; on the other hand, the elimination of reference to the object, as in the abstract, non-representational painting of Kandinsky, Malevich, and Mondrian.

Full course, Semester 1.

Ms. Grad.

143. ART SINCE 1945.

Organized as a survey of contemporary American and European art, this course examines the major movements in recent art including Abstract Expressionism, Environments and Happenings, Pop Art, Minimalism, Earth Art, and the New Realism. The increasing importance of the commercial environment, popular culture, and technology will be explored as a major theme in the art of the sixties and seventies. Each student will function in the capacity of an artist, a critic, and an art historian, creating an object, criticizing an exhibit or work of art, and formally analyzing a museum work. By assuming these separate roles, the student may come to terms with relevant formal and critical issues. Ms. Grad. Full course, Semester 2.

144. IMPRESSIONISM.

This course explores in depth the styles of the Impressionist painters, Manet, Monet, Renoir, Degas, Sisley, and Pissarro, In addition to examining the formal and coloristic characteristics of these artists, the course examines the particular social, economic. and political context from which urban and rural impressionism emerged. Under Napolean III (1851-1870) Paris was physically transformed into a modern city of tree-lined, spacious boulevards, numerous parks, landscaped squares, and public gardens. Impressionist painters painted not only the countryside and seaside resorts, but also the beauty and richness of this changing urban environment. Prerequisite: Art 140, is recommended. Full course, Semester 1. Ms. Grad.

147. ART IN SIXTIES AMERICA. Not offered, 1978-79. The rich and heterogeneous developments in painting, sculpture, architecture, and photography in sixties America form the bases of this course. During this period the pendulum swings between an abstract art of pure form and an art that incorporates the real world, bridging the gap between art and life. On the one hand, Kenneth Noland makes a painting consisting simply of colored stripes: on the other, Robert Rauschenberg plants a stuffed angora goat on a canvas. Philip Johnson creates monumental buildings that are "sculptures" in themselves, with no relation to their environment, while Robert Venturi creates contextural architecture that responds to its existing environment by incorporation of vernacular elements in the design. This course intends to explore the diverse approaches of artists and architects in this decade and to raise questions about the nature of creativity and the function of art in sixties America. Full course. Ms. Grad.

148. AMERICAN LANDSCAPE. Not offered, 1978-79. Throughout the nineteenth and twentieth centuries, the American landscape has provided a continous source of inspiration to all practitioners of the visual arts: painters, photographers, printmakers, and landscape architects. This course explores the changing vision of the landscape as it has been expressed in the various media of these artists, embracing both the nature paintings of the Hudson River School as well as contemporary earthworks. The image of nature and technology - "the machine in the garden" - and its relation to broader cultural issues will receive special attention.

Ms. Grad. Full course.

150. INTRODUCTION TO ORIENTAL ART: ANCIENT NEAR EAST AND INDIA. Not offered, 1978-79.

A preliminary look at the Near East is designed to acquaint the student with the styles and iconography of ancient Mesopotamian and Iranian art as a background for developments in India and Central Asia. The major part of the course deals with Indian art from prehistoric times through the period of the Moslem dynasties, and with the spread of Indian culture into Indo-China and Indonesia. Monuments of Buddhist and Hindu art are studied and discussed in the light of the faiths which inspired them. The philosophy, mythology, and iconography of these faiths are the subject of background readings intended to inform the discussion. Aside from its intrinsic value, this material is basic to further study of Buddhist art in China and Japan. Mr. Cowardin. Full course.

151. INTRODUCTION TO ORIENTAL ART: CHINA AND JAPAN.

The greater part of the course (about two thirds) is devoted to the art of China from the beginnings through the Yuan Dynasty. As an introduction, it has no pretensions to completeness, but singles out for study certain periods and classes of objects, such as Shang and Chou bronzes, Buddhist sculpture, and Sung paintings, at the expense of others, such as ceramics and later paintings. The objective is to arouse interest and develop sensitivity to different artistic points of view and aesthetic values, while laying the foundations for further study. The same approach is carried

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over to Japan in the remainder of the course, where emphasis is placed on Buddhist sculpture, narrative and landscape scroll paintings, and color woodblock prints.

Full course, Semester 2.

Mr. Cowardin.

160. FLEMENTS OF ARCHITECTURE.

The course will consider architecture as a form of expression, dealing with the major elements of architectural language generically rather than historically. Topics covered will include form, structure, space, and function. The major historical styles will be referred to as appropriate to illustrate concepts being discussed. The course will also consider architectural design from a conceptual rather than a technical viewpoint.

Full course, Semester 2.

Mr. Cowardin.

164. HISTORY OF PHOTOGRAPHY. Not offered, 1978-79. From its invention in 1839 to the present, photography has been explored as a versatile medium in numerous fields. It has been used for historical documentation, as in the Civil War photographs of Matthew Brady; for geological and geographical surveying, as in the western landscapes of William Henry Jackson; for social documentation, as in the work of Lewis Hine and Dorothea Lange: for commercial purposes, as in fashion photography and picture postcards; and as purely fine art, as in the work of Alfred Stieglitz. This course examines the history of photography as a social document and as fine art within this interdisciplinary context. It further explores the impact of photography on contemporary popular culture, as an agent that has radically transformed our notions of ourselves and society. Full course. Ms. Grad.

170. VISUAL DESIGN I — TWO-DIMENSIONAL FORM AND COLOR.

This is a studio course on campus designed to introduce the student to the nature of visual language and the creative process and to develop abilities for original creative thought and action. Basic two-dimensional studio problems in organization, color relationships, form, space, design, and visual communication are presented. Work in addition to the scheduled studio hours will be required. Open to non-majors. Enrollment is limited. Prerequisite: permission of instructor.

Full course, Semester 1.

Mr. Krueger.

171. VISUAL DESIGN II — SPACE AND THREE DIMENSIONS.

This course is a continuation of 170., to include the study of depth and plastic illusion and basic three-dimensional structural principles and forms. 170. is not a prerequisite but is recommended. Open to non-majors. Enrollment limited. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Krueger.

172. VISUAL STUDIES.

This course title is a general designation for a group of one-semester studio courses of varying content designed to encourage the development of expressive and communicative visual arts skills. Opportunity is provided for individual study in traditional, contemporary, and experimental forms and materials. Specific semester topics include: Environmental Space Design, Drawing as Analysis, Expression, Painting, Contemporary Forms, and others to be determined by students' special interests and skills. 170. and 171. or the equivalent are recommended as preparation. Open to non-majors. Enrollment limited. Prerequisite: permission of instructor. The course may be repeated for additional credit.

173. VISUAL STUDIES.

This course is a continuation of 172. It may be repeated for additional credit. Enrollment is limited. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Krueger.

174. CONTEMPORARY DIRECTIONS.

This is a studio course, with discussions and museum visits, which will be concerned with a practical, experiential examination of current movements, directions, styles, and attitudes in the visual arts. Specific topics include: the Avant-garde, American Modes, Modern Uses of the Figure, and others to be determined by Modular Term special program requirements. Students will be expected to study in depth, through their own studio work, a specific contemporary style or to experiment with a number of modes. Prerequisite: permission of instructor. The course may be repeated for additional credit.

Full course, Modular Term.

Mr. Krueger.

178. PHOTOGRAPHIC WORKSHOP - COLOR.

This course is an advanced workshop for those students who have demonstrated an expertise in the utilization of black-and-white materials and techniques. It will concentrate on the theory, practice, and aesthetics of color photography. Assignments will be completed using color positive materials (slide transparencies) which the students will process and subsequently make color prints from. Color lab facilities will be provided and students will be expected to furnish their own 35mm camera, film, and paper. Students will be required to participate in a group exhibition at the end of the term. Enrollment is limited. Prerequisite: permission of instructor.

Full course, Semester 2.

Mr. Slatkin.

188. PHOTOGRAPHY. (at the Craft Center)

This is a beginning course and an intermediate/advanced program that includes practice in the techniques and aesthetics of photography as a medium of personal expression. Lectures, field trips, and discussions supplement studio and darkroom work. A variable setting 35mm or 2½ x 2½ camera is required. Open to non-majors. Prerequisite: permission of Program Chairman. Full course, Semesters 1, 2. Craft Center Staff.

188. CERAMIC DESIGN. (at the Craft Center)

This course is an exploration of form, textures, and color using basic clayworking methods of hand-forming, coil building, and slab construction. Emphasis is on developing an awareness of the elements of sculptural design rather than an attempt to produce utilitarian pottery. Intermediate and advanced students may be accepted by permission of the instructor or advanced sections may be offered. Open to non-majors. Prerequisite: permission of Program Chairman.

Full course, Semesters 1, 2.

Craft Center Staff.

188. FIBER DESIGN. (at the Craft Center)

This is an exploration of the material and formal qualities of fibers and experimentation with various structural processes: continuous-line constructions, intersection of fiber elements, off-loom and alternate weaving methods, etc. Open to non-majors. Prerequisite: permission of Program Chairman.

Full course, Semesters 1, 2. Craft Center Staff.

199. MUSEUM SCHOOL STUDIO COURSES.

The title of this course is a general designation for all courses at the School of the Worcester Art Museum. They are open only to studio art majors by portfolio evaluation and permission of the Art Program Chairman. Courses include:

Drawing and Painting I
Visual Design I
Three-dimensional Design I
Drawing and Painting II
Life Drawing and Painting I
Commercial Art Design I
Technics
Illustration I
Sculpture I
Photography I
Painting III
Illustration II

Three-dimensional Design II Graphics I Photography II Sculpture II Life Drawing and Painting II Commercial Art Design II Independent Study

See the Museum School catalog and schedule for complete course descriptions and listings.

Full courses. Semesters 1, 2,

Museum School Staff.

VPA 100. THE CULTURE BUSINESS.

(See course description under American Studies.) Full course, Semester 2.

Mr. Belasco.

FILM AND TELEVISION STUDIES

PROGRAM FACULTY

Anthony W. Hodgkinson, Associate Professor of Film and Television Studies; Program Chairman, Associate Department

Charles H. Slatkin, M.F.A., Lecturer in Film/Video/Photography.

UNDERGRADUATE PROGRAM

The program in film and television studies is designed to help the student acquire a basic critical understanding and appreciation of our youngest arts. A full understanding of the screen arts involves two related activities: (1) the viewing, discussion, and evaluation of a large number of significant works; and (2) initial attempts, through simple film and/or video production exercises, to express oneself in a technically demanding medium.

The emphasis of most courses is on the viewing, discussion, and assessment of films; the courses are designed to have particular reference to the historical and social impact of film, its aesthetics and techniques. The production courses are deliberately set at an introductory, elementary level; there is no intention of providing a professional training in either film or video.

There is no major in film and/or television studies per se offered at present, but attention is directed to the possibilities both of a student-designed major and (for art majors) a studio major, with emphases on film in its relation to other liberal arts.

COURSES

88. DIRECTED READINGS.

A sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

89. SPECIAL PROJECTS.

Independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

101. INTRODUCTION TO SCREEN STUDIES I: THE ELEMENTS OF THE SCREEN ARTS.

A survey of the varied techniques used in the making of all screen communications (film, television, video): the invention of the language; silent film narrative; editing; music; speech and sound. Lecture/screenings; analyses of two or three feature films, term papers, and readings. Either this course or 102. is a prerequisite for other film studies courses. Open to freshmen. Full course, Semester 2.

Mr. Slatkin.

102. INTRODUCTION TO SCREEN STUDIES II: THE FILM STUDIO TEAM.

In a series of lecture/screenings, the contributions to the feature film of each of the major members of the studio team - writer, director, actor, etc. - are examined, and two or three feature films are analyzed in detail. Term papers and readings. Either this course or 101, is a prerequisite for other film studies courses. Open to freshmen. Full course, Semester 1.

199. ELEMENTARY FILM/VIDEO PRODUCTION.

A practical workshop in 8mm film and ½ " video. Student work will be analyzed and criticized. Prerequisite or corequisite: 101, or 102 Full course, Semester 2.

201. ASPECTS OF FILM AND TELEVISION HISTORY.

Under this general heading, various facets of the 80 years of world cinema and television are explored in a series of lecture/screenings and discussion seminars. Content varies each time the course is taught and may be taken more than once. Prerequisites: 101, and 102. This year's course will cover the history and future of U.S. television. Full course, Semester 1. Mr. Slatkin.

211. FILM. TELEVISION AND SOCIETY.

Thematic explorations of the ways in which the screen media have reflected/affected their contemporary society. Content varies each time the course is taught and it may be taken more than once. This year, in cooperation with Art, Music and Theatre Programs, a study will be made of "Portraits of the Artist(e)" in feature films. Lectures, screenings and discussion seminars, Prerequisites: 101. or 102., but these may be waived for Art. Music and Theatre

Full course, Semester 1.

Mr. Hodgkinson, V&PA Faculty.

221. SCREEN AUTEURS.

A continuing series of lecture/screenings and discussion seminars in which an examination is made of the canon of work of individuals, be they producer, director, writer, cameramen, etc. who qualify as "auteurs" (i.e. primary "authors" of a film or conceivably - a television program or series). The individual(s) studied vary each time the course is offered, and the course may be taken more than once. This year, the populist directors of the thirties, Frank Capra and Leo McCarey will be considered. Prerequisites: 101. or 102.

Full course, Semester 1.

Mr. Hodgkinson.

Staff.

231. LITERATURE OF THE SCREEN. Not offered, 1978-79. A seminar in which some of the significant books of film theory, aesthetics, history, etc., are studied in detail and depth. Prerequisite: 101. or 102. plus one other Film and Television

Studies course. Full course.

Mr. Hodgkinson.

VPA 100. THE CULTURE BUSINESS.

Refer to course description under American Studies. Mr. Belasco. Full course, Semester 2.

MUSIC

PROGRAM FACULTY

Wesley M. Fuller, M.Mu., Associate Professor of Music, Program Chairman, Associate Department Chairman.

Relly Raffman, A.M., George N. and Selma U. Jeppson Professor

Gerald R. Castonguay, Ph.D., Associate Professor of Music Susan F. Clickner, B.M., Associate Professor of Voice (Affiliate) Harriet Shirvan, Curtis Institute Artist Diploma, Associate Professor of Piano (Affiliate), Director of Piano Program

Jill Maurer, M.Mu., Assistant Professor of Flute (Affiliate) Robert Manero, B.A., Assistant Professor of Violin (Affiliate) Catherine Matejka, M.Mu., Assistant Professor of Piano (Affiliate) David Sussman, B.A., Assistant Professor of Guitar (Affiliate) Robert Gronquist, A.M., Director of Choral Activities Allan Mueller, Affiliate in Piano and Jazz Studies

UNDERGRADUATE PROGRAM

The music program offers (1) a solid, pre-professional course of study for the music major, and (2) courses and activities for the non-major. Courses are designed to teach students to listen to music intelligently, to develop a comprehension of music on its own terms, to master basic skills of music and apply them creatively, and to acquaint students with representative works from various periods of music history.

The Music Major

The music major includes the following courses:

- •Theory: 121. Prerequisite: Music 120. (Rudiments of Music) or placement examination.
- •Theory: 122., 123., 124., 125
- Music History: 12., 13., 14., 15., 119.
- •Performance: a minimum of four semesters in 107., 117., 127.,
- •Related areas: a full course in art, theater art, or film studies; or a full course in aesthetics.
- •A minimum skills test, including sight-singing and dictation at a level of proficiency necessary for the successful pursuance of the major, must be passed during the sophomore year. A keyboard proficiency test must be passed during the junior year.
- •In addition, all majors must complete nine full courses outside of Philosophy 149. (Aesthetics), courses in the visual and performing arts, and literature.

Major Concentration Areas: The professionally oriented major may, by permission, concentrate in composition, theory, history, or performance. This concentration is achieved through individual tutorial work usually undertaken only in the senior year; the exception is the performance concentration in which private lessons are taken throughout the major program. These concentrations result in various types of final projects including papers in historical research and theoretical research. compositions, and, in the case of the performance concentration. a senior recital preceded by appearances on student recitals. The performance concentration also requires a senior seminar dealing with stylistic analysis of the music to be performed in the senior recital. The music program stresses the advantages of combining such professional musical development with the humanistic breadth offered by a strong liberal arts college.

Non-majors and majors are offered opportunities to perform in a diversity of organizations including the choral society, the orchestral and chamber ensembles, and the jazz workshop.

Private lessons in a variety of areas are offered for nonmajors and majors, for non-credit or for credit. During the 1978-79 academic year, individual instruction in piano, voice, jazz piano, flute, classical guitar, and violin will be offered. Arrangements for lessons should be made at the music office during registration

Although the music program does not offer specific courses in music education, a major may take courses in the education department and prepare for public school teaching. Within the Department of Education a student may arrange for study in music curriculum and practice teaching. The thorough training within the music program, in combination with work in the Department of Education and the college in general, provides both a specialized and broad training for the prospective music teacher.

Prospective students who are considering a music major are urged to contact the chairperson of the music program and arrange for a conference if possible. A placement test to determine the student's present level of musical proficiency is available and strongly advised. Students considering a performance concentration should arrange for an audition.

INTRODUCTORY COURSES

10. INTRODUCTION TO MUSIC.

Designed for the non-major, this course is a prerequisite for entrance into all music history courses. Its goal is to expand the concept of the musical experience and to develop discriminating listeners. The course also provides an introduction to the music program as it is taught jointly by several members of the department. The course offers an introduction to principles of rhythm, pitch, timbre (and their notations); the principles of structure; the aesthetics of music; specific forms including fugue, sonata-form, variations, etc; and selected historical styles. Full course, Semesters 1, 2,

110. INTRODUCTION TO MUSIC.

This course, for majors only, explores special topics in music

Half course, Semesters 1, 2.

Staff.

120. RUDIMENTS OF MUSIC.

This course is an introduction to the fundamentals of music; no previous experience is necessary. The course includes notation, ear-training, sight-singing, score reading, and elementary melodic and harmonic organization. The course satisfies the prerequisite for credit in Music 18., and entrance to Music 121. Full course, Semester 2. Staff.

MUSIC HISTORY

12. MEDIEVAL AND RENAISSANCE PERIODS.

Beginning with early Christian chant, this survey includes a study of the Medieval song and motet, the growth of polyphonic secular and sacred music extending through the sixteenth century, culminating with the study of the Renaissance mass and madridal. Works are performed in class and scores are used for the majority of works studied. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years. Full course. Semester 1 Mr. Castonguay.

13. BAROQUE PERIOD.

This is a survey of music from 1600 to 1750. This course deals with the origins and growth of vocal and instrumental genres (opera, oratorio, cantata, sonata, concerto, etc.) and the wide variety of formal types closing with the works of Bach and Handel. When possible, works are performed in class and scores used for works studied. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years. Full course, Semester 2, Mr. Castonguay.

14. CLASSICAL AND ROMANTIC PERIODS.

Not offered, 1978-79.

This is a survey of music from 1750 to 1900. Beginning with a survey of Italian, French, and Viennese styles, the course focuses on the music of Mozart, Haydn, and Beethoven, and continues with the study of selected works from major composers of the nineteenth century. When possible, works are performed in class. Miniature scores are required for some of the works studied. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years. Full course. Mr. Castonguay

15. 20TH-CENTURY MUSIC.

Not offered, 1978-79.

This course is a survey of early twentieth-century masterworks. Representative composers include: Debussy, Ravel, Prokofiev, Stravinsky, Bartok, Hindemith, Schoenberg, Berg, and Webern. Offered in alternate years. Prerequisite: 10. or 120. Mr. Raffman. Full course.

16. THE MUSIC OF JOHANNES BRAHMS.

The course considers Brahms as man and musician in the latter half of nineteenth-century Vienna. Detailed analyses of his chamber and orchestral music, lieder, and keyboard works are

undertaken. Whenever possible, works will be performed live in class. Although scores will be provided in the majority of cases. students will be expected to provide several of their own purchase for extended study. Prerequisite, 10., 120., or permission of instructor.

Full course, Semester 2.

Mr. Castonquay.

19. WORLD MUSIC.

Not offered, 1978-79.

Musical styles of cultures not in the Western European tradition are studied. Specific topics vary each time the course is presented. Musics of India, Africa, Japan, China, and Iran are some of the recurring areas presented. This course may be repeated. Prerequisite: permission of instructor.

Full course.

Mr. Fuller, Staff,

20. CHAMBER MUSIC.

Not offered, 1978-79.

This course deals with a survey of selected works of the major composers in the field of chamber music from Haydn to Stravinsky. Trips to concerts in the surrounding area will be made whenever feasible. Prerequisites: 10., 120., or permission of instructor.

Full course.

Mr. Castonguay,

113. J.S. BACH AND HIS MUSIC.

Not offered, 1978-79.

This course focuses on the study of Bach and his music. It investigates the social, historic, and cultural setting of Bach's era, and, in particular, it encompasses an intense study of his music including the early cantatas and organ works, the instrumental music from his Cothen period, and, finally, the mature cantatas of his Leipzig years. When possible, works will be performed in class and scores will be provided for the majority of works studied. Prerequisite: 10. or 120. Offered in alternate years. Full course. Mr. Castonguay.

114. BEETHOVEN: THE MAN AND HIS MUSIC.

Not offered, 1978-79.

This is a study of Beethoven as man and artist. This course explores the social and historical background of Beethoven's Vienna and centers on the study of selected works from the important genres (symphony, chamber music, and sonata) throughout Beethoven's career. Miniature scores are required for a number of works studied. Prerequisite: 10., 120., or permission of instructor. Offered in alternate years.

Full course.

118. SENIOR TUTORIAL IN MUSIC HISTORY.

This course is for majors only. Prerequisite: permission of instructor. Full course, Semesters 1, 2.

119. MUSIC OF THE AVANT GARDE.

This course studies the stylistic developments of European and American music composed since 1950. Composers include Stravinsky, Stockhausen, Cage, Carter, Boulez, Messiaen, Berio, and others. Offered in alternate years, Prerequisite: 15., 125., 140., or permission of instructor.

Full course, Semester 2.

Mr. Fuller.

132. JAZZ HISTORY.

The course centers around a study of the evolution of jazz style from its nineteenth-century beginnings to the present day: African roots, minstrels, ragtime, dixieland, swing, bop, progressive, cool, free-form, and third-stream. A research paper and a final exam are required. Offered in alternate years.

Half course, First-half, Semester 2.

Mr. Raffman.

182. ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS.

This course is part of a Humanistic Studies cluster which also offers credit as English 182., Comparative Literature 182., and Philosophy 182. (See course description under Humanistic

Full course, Semester 1.

Mr. Castonguay, Mr. Blinderman, Mr. Overvold, Mr. Schatzberg.

MUSIC THEORY

176. PRIMARY THEORY.

This course is a study of the structure of tonal music and includes analytical and compositional problems in homophonic, monodic. and polyphonic textures, basic orchestration, ear-training, sightsinging, and conducting. Prerequisite: 120., or entrance examination (given at first class meeting). Offered through the year. Divisible course.

Full course, Semesters 1, 2

Mr. Raffman.

122. THEORY: MODAL COUNTERPOINT.

Contrapuntal styles in two-, three-, and four-part textures of major composers of the fifteenth and sixteenth centuries are analyzed and used as a foundation for compositional assignments. Twentieth-century modal polyphony is also studied. Prerequisite: 121. Offered in alternate years. Full course, Semester 1. Mr. Fuller.

123. THEORY: 18TH-CENTURY COUNTERPOINT.

This course deals with compositional and analytical problems in the eighteenth century contrapuntal idiom; two and three-part inventions, canon, and fugue. The thoroughbass practice of the seventeenth and eighteenth centures is explored. Final project: the composition of a three- or four-voice fugue. Prerequisite: 121. Offered in alternate years.

Full course, Semester 2.

Mr. Raffman.

124. THEORY: 19TH-CENTURY PRACTICE.

Not offered, 1978-79.

This course deals with problems in analysis, composition, and orchestration in the chromatic style of the nineteenth century. Works of Beethoven, Chopin, Schumann, Wagner, and Brahms are analyzed and used as compositional models. As well, the harmonic language of impressionism, with its emphasis on scalar control, is examined. Prerequisite: 121. Offered in alternate years. Full course. Mr. Raffman.

125. THEORY: 20TH-CENTURY PRACTICE.

Not offered, 1978-79,

Compositional techniques of major twentieth-century composers are studied and used as a basis for analysis and compositional assignments. Offered in alternate years. Prerequisite: 124., or permission of instructor. Full course Mr. Fuller.

131. JAZZ THEORY.

This course includes a study of the rhythmic/harmonic/melodic structures of jazz, the scalar basis of improvisation, and voicing practice as it pertains to scoring for small and large ensembles. Prerequisite: 120., or passing of placement examination in rudiments. Offered in alternate years. Full course, Semester 1. Mr. Raffman.

138. SENIOR TUTORIAL IN THEORY.

This course is for majors only. Prerequisite: permission of instructor

Full course, Semesters 1, 2.

Staff.

MUSIC WORKSHOPS

128. SENIOR TUTORIAL IN COMPOSITION.

This course is for majors only. Prerequisite: permission of

Full course. Semesters 1.2.

Staff.

130. JAZZ WORKSHOP.

The course includes ensemble performance practice with weekly rehearsals through the year. An audition is required. Credit is possible for those concurrently enrolled in or having previously passed 131. Maximum transcript credit allowed is one full course. Half course, Semesters 1, 2. Mr. Raffman.

133. TUTORIAL IN JAZZ COMPOSITION.

The student writes original scores for performance by Workshop ensemble. Prerequisites: 131., and permission of instructor.

Full course, Semesters 1, 2.

Mr. Raffman

134. CHORAL MUSIC AND CONDUCTING.

Styles of choral music from different periods will be studied with the aid of scores and recordings. Students will learn basic choral conducting techniques. Prerequisite: 121., or permission of instructor.

Full course, Semester 1.

Mr. Gronquist.

148. SENIOR TUTORIAL FOR PERFORMANCE CONCENTRATION.

Majors concentrating in performance will analyze historically and theoretically the music they will perform on their senior recital. A term paper is required.

Full course, Semesters 1, 2.

Staff

SPECIAL OFFERINGS

18. PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE.

Areas offered in 1978-79 include: piano, jazz piano, voice, flute, classical guitar, and violin. Except for jazz piano, beginners are welcome. Non-majors and majors who are not concentrating in performance may receive one quarter course credit per semester, to be held in escrow until a half course is earned and the prerequisite passed. The prerequisite for credit: successful completion of Music 120., or the passing of an entrance examination to Music 121., which is given in September and January. Lessons may be taken for no credit. Majors who have been accepted into the performance concentration program (by audition) may receive one half credit per semester during the freshman and sophomore years, and 1 credit per semester during the junior and senior years.

Variable credit, Semesters 1, 2.

Staff.

88. DIRECTED READINGS.

This is a sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

89. SPECIAL PROJECTS.

Students conduct independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor.

Variable credit, Semesters 1, 2.

Staff.

140. INTRODUCTION TO ELECTRONIC MUSIC.

This course is part of the new Tri-College Program in Electronic Music. Its goal is to provide a greater understanding of electronic music as a natural, historical, and artistic result of musical and technological achievements of the twentieth century. It begins with study of pre-1950 musical developments and continues into the three major phases in the history of electronically produced music: the processing of natural and electronic sound sources with taperecorder and laboratory methods, the voltage-controlled synthesizer, and the techniques of computer generated sound. A group of important musical works will be studied, and the confluence of related fields such as psycho-acoustics and mathematics will be considered. Although this is not primarily a studio course, students will be given studio time to work with electronic music devices. The course may be taken as a selfcontained overview of the subject, or used as a basis for more advanced work in analog or digital studios. Full course, Semester 1. Mr. Fuller.

90. DIRECTED STUDIES IN ELECTRONIC MUSIC.

This is advanced work in any of the various areas of the electronic music program: composition, hardware or software design,

psycho-acoustics, etc. Prerequisite: 140., or permission of instructor.

Full course, Semesters 1, 2,

Mr. Fuller.

299.9. INTERNSHIP IN MUSIC.

Variable credit, Semesters 1, 2.

Staff.

VPA 100. THE CULTURE BUSINESS.

(See course description under American Studies.) Full course, Semester 2.

Mr. Belasco.

The following musical activies are open to all students, graduate and undergraduate alike. Auditions are held during the first week of Semester 1. Although no credit is awarded, the transcript of any undergraduate who completes the assigned performance requirements will include a listing of the particular activity for which he or she was registered.

107. CHAMBER MUSIC ENSEMBLES.

The number of small ensembles is determined by the performing talent in a given year. These are organized as part of the Worcester Consortium Instrumental Performance Program. Admission is by audition.

Semesters 1, 2.

Staff.

117. CLARK CHAMBER CHORUS.

This is a small, specialized singing group chosen by the conductor from the large Clark Choral Society. Admission is by audition.

Semesters 1, 2.

Mr. Gronquist.

127. CLARK CHORAL SOCIETY.

The Choral Society is a chorus of 40 to 50 voices which presents two major concerts each year on the Clark campus. Admission is by audition.

Semesters 1, 2.

Mr. Gronquist.

137. WORCESTER CONSORTIUM ORCHESTRA.

The orchestra is made up of students from various consortium institutions and presents two major concerts each year. Admission is by audition.

Semesters 1, 2.

Mr. Manero.

THEATER ARTS

DEPARTMENT FACULTY

Carol Sica, M.F.A., Associate Professor of Theater Arts, Program Chairperson, Associate Department Chairperson Neil R. Schroeder, Ph.D., Associate Professor of Theater Arts Donna Allinson, M.A., Technical Director.

UNDERGRADUATE PROGRAM

The program in theater arts is designed to give students both practical and scholarly experience in all phases of theater. Courses are open to qualified undergraduates who are willing to devote the time and energy which are necessary for their completion. They are designed to develop theater artists with a sound humanistic education and to prepare those who are interested for graduate training in educational and professional theater

Students who take courses in theater arts will be expected, as part of their course work, to participate in production of the Theater Arts Program at Clark University. All Clark students are eligible to audition for plays and work on productions. The General Program

Through the Worcester Consortium and interdepartmentally at Clark, courses are available in the following areas: theater history and criticism, dramatic literature, theater education, acting

and directing, technical theater and design, and playwriting. All courses without prerequisites are open to any student on an elective basis, and advanced courses are available on an elective basis to those students who have the necessary prerequisites. The Theater Arts Major

The major program trains students in the fundamentals of various theater disciplines and prepares them for further training and experience. Advanced work in theater is accomplished

through Directed Readings (Theater Arts 88.), Special Projects (Theater Arts 89.) and advanced tutorials, some of which will be created specifically for each student. Advanced tutorials in areas other than acting and directing which are already on the books will be created to meet student demand whenever possible.

The Theater Arts major has a choice of two concentrations: a Performance/Production sequence or a Dramatic Literature/Theater History sequence. The major consists of a



minimum of 16 full courses in the following categories:

1) Core curriculum. Required of all majors, four full courses as follows: T.A. 10. How Does a Play Work; T.A. 11. Voice and Diction: T.A. 14. Basic Acting: and T.A. 120. Basic Technical Theater & Design I.

Drama/History Core. Required of all majors, three full courses from either or both semesters of any of the following: T.A. 151. Theater in Western Civilization; T.A. 154. Modern Drama; T.A. 155. English Drama.

Major Concentration. Three additional courses in the Theater Arts major's area of concentration, as follows:

- a. The Dramatic Literature/Theater History sequence could include any of the following: those parts of T.A. 151., 154., and 155, not taken as the Drama/History Core; T.A. 164. The American Musical Theater; T.A. 185. Tennessee Williams: T.A. 286. Seminar: Ibsen; and any additional or future Theater Arts courses which are concerned with drama, theater history, dramatic or performance theory or criticism, or aesthetics of the theater.
- The Performance/Production sequence could include any of the following

T.A. 15. Intermediate Acting.

T.A. 16. Stage Movement.

T.A. 18. Fundamentals of Directing.

T.A. 121. Principles of Stage Management.

T.A. 122. Basic Technical Theater and Design II.

- Theater Arts Electives. Three additional courses in Theater Arts, as follows:
 - a) The Dramatic Literature/Theater History concentration could include courses in acting, directing (where permitted), technical theater, design, voice, movement, or additional courses in theater history or dramatic literature taught in Theater Arts or other departments.
 - The Performance/Production concentration could include: T.A. 17. Advanced Stage Movement.

T.A. 19. Directing Seminar.

T.A. 123. Scene Design.

T.A. 124. Lighting Design.

T.A. 204. Seminar in Acting.

Related Fields. Three courses in related fields, usually chosen from the following: art, film, music, English, philosophy history, classics, comparative literature, and foreign languages and literatures.

The Theater Arts "minor" or double major: Students who wish to design a program in theater arts which will serve as a minor program or part of a double major are welcome to do so under the direction of the associate chairman. Each program will be designed to meet the individual's specific need. While some may wish to develop a program independent of other concerns, others may wish to integrate their program with disciplines such as music, fine arts, film, English, modern languages and literatures,

All students who plan to major in theater arts or to take a significant portion of their program in theater arts should consult the associate chairman early in their careers, for many of the fundamental courses should be taken before the junior year. In some cases courses taught in the Consortium in theater may be substituted for Clark courses, with permission of the chairperson.

COURSES

10. HOW DOES A PLAY WORK? CRITICAL ANALYSIS AND WRITING.

The class will study a small group of plays representing several styles, modes, and eras of Western drama, with special emphasis on formal analysis - study of the form and structure of each play. By means of class discussion, the oral interpretation of scenes from the plays, and the reading of critiques which illustrate various critical approaches to the drama, the student will be encouraged to arrive at a personal evaluation of the plays. Each student will be required to write several papers in which he handles a particular

critical problem or critical approach and in which he expresses his personal evaluation of the plays. Student papers will be carefully corrected and evaluated by the instructor and, in some cases, by the class, and opportunities for revision will be provided when desirable. No prerequisite. Limited enrollment. Full course, Semester 1. Mr. Schroeder.

11. VOICE AND DICTION.

The course is an intensified phonetic approach to articulation and voice production with some emphasis on speech for the stage and for public occasions. Each student will be required to master the International Phonetic Alphabet to the point where it is an effective tool for ear training and articulation. Several laboratory sessions will be provided for the student to record and listen to his voice and for individual coaching by the instructor. No prerequisite, Full course, Semester 2. Staff.

14. BASIC ACTING.

The course offers a systematic approach to acting, and development of the "inner life" through analysis, improvisation. and scene study. There will be a performance workshop. Additional lab hours will be required. No prerequisite. Full course, Semesters 1, 2. Ms. Sica.

15. INTERMEDIATE ACTING.

This course offers an approach to scene study and character analysis, including presentation of scenes from all genre of theater. Additional lab time is required. Prerequisite: Theater Arts

Full course, Semester 2.

Ms. Sica.

16. BEGINNING STAGE MOVEMENT.

Students will study the basic principles of stage movement techniques and extension of the emotional range of the body. Prerequisites: Theater Arts 14., and permission of chairperson. May be taken concurrently.

Full course.

Staff.

17. ADVANCED MOVEMENT FOR THE THEATER.

Students will receive further development of stage movement technique. They will do work in rhythm and dynamics through involvement in choreographed selections. Styles of movement will be studied. Prerequisites: Theater Arts 14, and 16, and permission of chairperson.

Full course.

Staff.

18. FUNDAMENTALS OF DIRECTING.

This is an introduction to the principles of directing for the stage through theory, practical application, discussion, and field trips to local professional theaters. Additional lab hours are required. No prerequisite.

Full course, Semester 1.

Ms. Sica.

19. DIRECTING SEMINAR.

Students will study advanced problems of interpretation and concept, the role of the director as creative and interpretive artists, relationship to designer, stage manager, and actors. Additional lab time is required. Prerequisites: Theater Arts 18., and permission of instructor.

Full course, Semester 1.

Ms. Sica.

88. DIRECTED READINGS.

This is a sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2, Staff.

89. SPECIAL PROJECTS.

Students will conduct independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Variable credit, Semesters 1, 2. Staff.

120. BASIC TECHNICAL THEATER AND DESIGN I.

This is a fundamental course of design principles as applied to the technical aspects of various styles of theatrical production. Techniques of drafting for scenery and lighting are introduced. Set construction and lighting methods are applied in laboratory sessions and specific crew assignments. No prerequisite. Full course. Semester 1. Ms. Allinson.

121. PRINCIPLES OF STAGE MANAGEMENT.

This is a course in the techniques of stage management, Emphasis is on the varied responsibilities involved. In-class scene work will give opportunities to discover various problems of stage management. Students will receive practical experience by serving on the working crews and in managerial positions on productions. Some previous theater experience required. Full course. Semester 1. Ms. Allinson.

122. BASIC DESIGN AND TECHNICAL THEATER II.

This course is a continuation of Theater Arts 120. Emphasis is on design of scenery, costumes, props, and lighting for various styles of production. Further theoretical study includes analysis of design aspects of live productions during the semester. Practical experience will be gained through regularly scheduled laboratory hours. Prerequisite: Theater Arts 120., or permission of instructor. Full course, Semester 2. Ms. Allinson.

123. SCENE DESIGN.

Not offered, 1978-79. This course offers theoretical, historical, and practical study of scene design. Development of scene design through the history of theater will be studied through designing and researching plays from several periods and styles of theater. People will be expected to work on construction and painting of a production during the semester. Prerequisites: Theater Arts 120., 122. Full course. Ms. Allinson.

124. LIGHTING DESIGN.

Not offered, 1978-79. This course involves theoretical, historical, and practical study of lighting design, carrying through research from Theater Arts 123. Analysis of live productions will be used to enhance understanding of the theoretical aspects of lighting design. Students will have practical application in designing lighting for at least one production during the semester. Prerequisites: Theater Arts 122., 123 Full course. Ms. Allinson.

151. THEATER IN WESTERN CIVILIZATION.

Not offered, 1978-79. This course is a survey of theater and drama from ancient Greece to the twentieth century. The course will consider the form and substance of theatrical presentations and the study of several representative plays from each important era and national theater. The first semester will cover the period from the Greeks to the Renaissance: the second semester will cover the period from the seventeenth century to the twentieth century. No prerequisite. Mr. Schroeder. Full course.

154. MODERN DRAMA.

(Previously English 129.) This is a survey of Western drama and theater from Ibsen to the present. The first semester traces the development of modern realistic drama and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major post-war movements and the radical dramatic forms which they have produced. No prerequisite. Mr. Schroeder. Full course, Semesters 1, 2.

155. ENGLISH DRAMA.

(Previously English 155.) This is a course in the major periods of English drama and theater before the twentieth century. The first semester covers the medieval theater, and the drama of Tudor, Jacobean, and Caroline England. The second semester covers the period from 1660 to the twentieth century. No prerequisite Full course, Semesters 1, 2, Mr. Schroeder

164. THE AMERICAN MUSICAL THEATER, Not offered, 1978-79. While some attention will be paid to the history of the musical theater in the United States, primary emphasis in this course will be on the study and analysis of several important contemporary musicals, their books, their lyrics, their music, and their productions, in an effort to determine form and structure and trends and innovations. Each student will be expected to study the book and lyrics for each show; in addition each student will be expected to listen to tapes of the music for each show. These tapes will be on reserve in the Goddard Library. No prerequisite. Full course. Mr. Schroeder.

185. TENNESSEE WILLIAMS. Not offered, 1978-79, This is an intensive study of the work of Tennessee Williams. concentrating on his development as an artist. Students will make an evaluation of his contribution to drama and literature through reading and analysis of his works. No prerequisite, but some experience in drama and literature is expected. Full course. Mr. Schroeder.

199. HOLY CROSS COURSES.

All Theater Arts courses taken at the College of the Holy Cross are numbered 199. Content is differentiated by title only. During each registration period, students should consult the list of courses available in the Theater Arts Office.

204. SEMINAR IN ACTING STYLES I.

This course offers continuing exploration of techniques in characterization. It is a laboratory in analysis and development of a major role. Scenes from the Modern Theater will be studied. Prerequisites: Theater Arts 14., 15., and permission of instructor.

205. SEMINAR IN ACTING STYLES II. Not offered, 1978-79. This course offers further exploration of techniques in building a character-laboratory in scene study. Students will study scenes from The Classical Theater and development of a major role. Prerequisites: Theater Arts 14., 15., 204., and permission of instructor.

Ms. Sica.

206. ADVANCED TUTORIAL IN ACTING III.

This course is offered at the discretion of the department. Full course.

Staff.

207. ADVANCED TUTORIAL IN ACTING IV.

This course is offered at the discretion of the department. Full course.

Staff.

242. ADVANCED TUTORIAL IN DIRECTING I.

Full course. Semester 2.

Full course.

Ms. Sica.

243. ADVANCED TUTORIAL IN DIRECTING II.

This course is offered at the discretion of the department. Full course.

Staff.

281. SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA.

This is a seminar devoted to the intensive study of a small group of dramatists or of a special dramatic problem of the Renaissance. Independent study and research is emphasized. Prerequisite: permission of instructor. Mr. Schroeder. Full course.

286. SEMINAR: IBSEN.

Not offered, 1978-79.

This is an intensive study of the major plays of Ibsen and criticism of his life and work. Consideration will be given to his development as an artist. Independent research and study is emphasized. Prerequisite: permission of instructor.

Full course. Mr. Schroeder.



Members of the faculty and officers for 1978-79 are listed alphabetically with their titles, degrees, and years at Clark University.

PRESIDENT

MORTIMER H. APPLEY, Ph.D., President of the University, Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950. (1974-)

EMERITI

- KARL O.E. ANDERSON, Ph.D., Professor of English. A.B., Harvard University, 1927; A.M., 1928; Ph.D., 1942. (1945-1976) KARL J.R. ARNDT, Ph.D., Professor of German, Emeritus. (1950-1974)
- LYDIA P. COOK, B.S., Registrar, Emeritus. (1932-1966)
- JESSIE C. CUNNINGHAM, Ph.D., Associate Professor of English, Emeritus. (1957-1975)
- TAMARA DEMBO, Ph.D., Professor of Psychology, Emeritus. (1953-1972)
- GEORGE E. HARGEST, M.B.A., Associate Professor of Economics, Emeritus. (1942-1971)
- SHERMAN S. HAYDEN, Ph.D., Professor of International Relations, Emeritus. (1946-1973)
- HOWARD B. JEFFERSON, Ph.D., LL.D., L.H.D., Litt. D. President, Emeritus, A.B., Denison University, 1923; Ph.D., Yale University, 1929; LL.D., Denison University, 1948;, Hillsdale College, 1952, Northwestern University, 1958; L.H.D., Colgate University, 1951, Assumption College, 1956; Litt. D., College of the Holy Cross, 1962; L.H.D., Clark University, 1967; LL.D., Emerson College, 1968; Litt. D., Anna Maria College, 1972. (1946-1967)
- VERNON JONES, Ph.D., Professor of Educational Psychology, Emeritus. (1926-1968)
- FREDERICK W. KILLIAN, LL.B., Associate Professor of Sociology, Emeritus. (1947-1970)
- DWIGHT E. LEE, Ph.D., L.H.D., Jacob and Frances Hiatt Professor of European History, Dean of the Graduate School, Emeritus. (1927-1967)
- RAYMOND E. MURPHY, Ph.D., Professor of Economic Geography, Emeritus. (1946-1968)
- J. RICHARD REID, Ph.D., Professor of Romance Languages, Emeritus. (1944-1976)
- HENRY J. WARMAN, Ph.D., Professor of Geography, Emeritus. (1943-1974)

FACULTY AND OFFICERS OF INSTRUCTION

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Academic Calendar 1978-1979

FALL SEMESTER

Friday, September 8

Registration for undergraduate and graduate students

Monday, September 11

First day of classes

Friday, September 15

Last day for graduate students to register

Monday, September 18 - Tuesday, September 19

Final registration for all students

Tuesday, October 3

Last day to submit applications to Registrar for degree to be awarded 1/26/79

Friday, October 20

Mid-semester break begins after last class

Wednesday, October 25

Class resume

Tuesday, November 21

Thanksgiving vacation

Monday, November 27

Classes resume

Friday, December 15

Last day of classes

Saturday, December 16 — Monday, December 18

Reading days

Tuesday, December 19 — Friday, December 22

Fall examinations

Friday, December 22

Christmas vacation begins after last exam

SPRING SEMESTER

Friday, January 12

Registration for all students

Monday, January 15

First day of classes

Monday, January 22 — Tuesday, January 23

Final registration for all students

Friday, January 26

Commencement (for students completing degree requirements in the fall)

Monday, February 26

Last day to submit application to Registrar for degree to be awarded 5/13/79

Friday, March 2

Spring vacation starts after last class

Monday, March 12

Classes resume

Friday, April 20

Last day of classes

Monday, April 23 — Thursday, April 26

Reading days

Friday, April 27 - Tuesday, May 1

Spring examinations

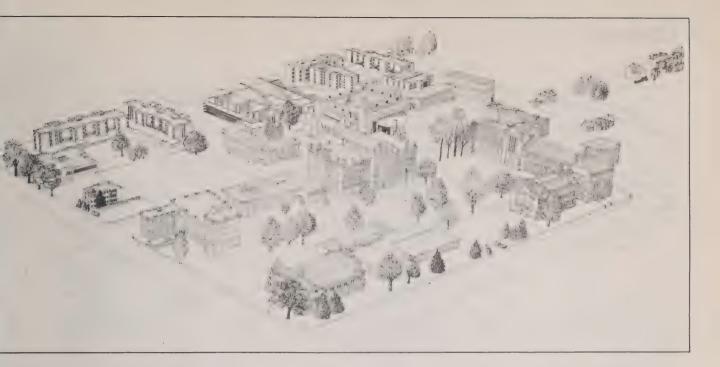
Sunday, May 13

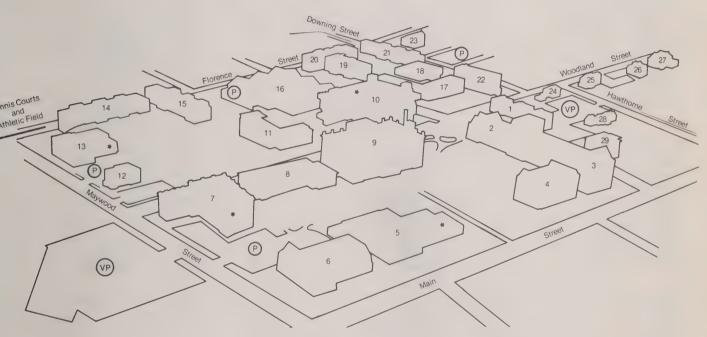
Commencement

MODULAR TERM

Monday, May 14 Modular Term begins Saturday, June 30 Modular Term ends







- 1. Downing Administration Center
- 2. Atwood Hall
- 3. Academic Center
- 4. Geography Building
- 5. Jefferson Hall
- 6. Alumni Gymnasium
- 7. Science (Bio-Physics) Building
- 8. Jeppson Laboratory
- 9. Jonas Clark Hall
- 10. Robert Hutchings Goddard Library

- 11. Bullock Hall
- 12. Potter Laboratory
- 13. Dana Commons
- 14. Dana Dormitory
- 15. Hughes Hall
- 16. Student Activities Center
- 17. Wright Hall
- 18. Little Center for the Visual and Performing Arts
- 19. Dodd Hall
- 20. Johnson Hall
- 21. Sanford Hall

- 22. Estabrook Hall
- 23. Physical Plant
- 24. Alumni House
- 25. English House
- 26. Carriage House
- 27. Department of Management
- 28. Cooperative Nursery/Commuter Lounge
- 29. Downing Residence
- Restrooms and Public Telephone
- Parking Area
- VP Visitor Parking

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